A NEW COMBINATION IN *VACHELLIA* WIGHT & ARN. (MIMOSACEAE)[1]

LEONARDO PAZ DEBLE[2] JOSÉ NEWTON CARDOSO MARCHIORI[3]

ABSTRACT

Acacia ibirocayensis Marchiori, species endemic in southwest of Rio Grande do Sul state (Brazil) is transferred to genus *Vachellia*. Description, illustration, comments about geographic distribution, conservation and allied taxa are furnished.

Key words: *Vachellia, Acacia,* Mimosaceae, Taxonomy, Rio Grande do Sul, Brazil.

RESUMO

[Uma nova combinação em *Vachellia* Wight & Arn. (Mimosaceae)].

Acacia ibirocayensis Marchiori, espécie endêmica no sudoeste do Rio Grande do Sul (Brasil) é transferida para o gênero *Vachellia*. Descrição, ilustração, comentários sobre distribuição geográfica, conservação e táxones relacionados são fornecidos.

Palavras-chave: *Vachellia, Acacia,* Mimosaceae, Taxonomia, Rio Grande do Sul, Brasil.

INTRODUCTION

The genus *Vachellia* was created by Wight & Arnott (1834), being *Mimosa farnesiana* L. the type. After this work, few additional species were described or transferred to *Vachellia* (Spegazzini, 1923), and the cited genus was treated as a synonym of *Acacia* Mill. by Burkart (1967, 1979, 1987), Vassal (1972) and Izaguirre & Beyahut (2003). Only in recent years *Vachellia* was rehabilited from *Acacia* (Seigler & Ebinger, 2006) and this treatment has been accepted by several authors (Kodela & Wilson, 2006; Hurter, 2008; Banfi & Galasso, 2008).

In the state of Rio Grande do Sul (Brazil), the genus *Vachellia* is represented by the well known *Vachellia caven* (Mol.) Seingler & Ebinger and by the extremely rare *Acacia ibirocayensis* Marchiori, which until this moment was not transferred to genus *Vachellia*. According with the concept that recognize *Acacia* s. str, *Mariosousa* Seigler & Ebinger, *Senegalia* Raf., *Vachellia* and *Zapoteca* H. M. Hern. as independent genus, the combination of *Acacia ibirocayensis* within *Vachellia* must be realized.

RESULTS

Vachellia ibirocayensis (Marchiori) Deble & Marchiori, comb. nov. Basionym: *Acacia ibirocayensis*, Rev. Ci. & Nat. (Santa Maria) 6: 104. 1984. Type: BRAZIL. Rio Grande do Sul, Alegrete, "barranca do rio Ibirocai, flores em capítulos solitários por nó e espinhos estipulares", 01-XII-1983, *J. N. C. Marchiori 1403*. Holotypus HDCF!

Description:

Subshrub 1 – 2 m high. Bark brown, fine, furrowed, with stipular spines. Stems dark purplish-brown, straight to slightly flexuous and stout, glabrous to slightly pubescent. Stipular spines reddish brown to dark brown, becoming dark gray with age, symmetrical, terete, straight, stout, up to 3 cm long, glabrous to pubescent near the base. Short shoots commonly present above the stipular spines. Leaves alternate (internodes up to 5 cm), also commonly clustered on the short shoots, 3.7 – 7 cm long, pinnate. Petiole reddish-brown, adaxially grooved, 0.4 – 1 cm long, glabrescent; petiolar gland solitary, located at or just below the lower

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[2] Biólogo, Dr., deble.biol@gmail.com

[3] Engenheiro Florestal, Dr., bolsista de Produtividade em Pesquisa (CNPq – Brasil), Professor Titular do Departamento de Ciências Florestais, Universidade Federal de Santa Maria. Santa Maria, RS, Brasil. balduinia@mail.ufsm.br

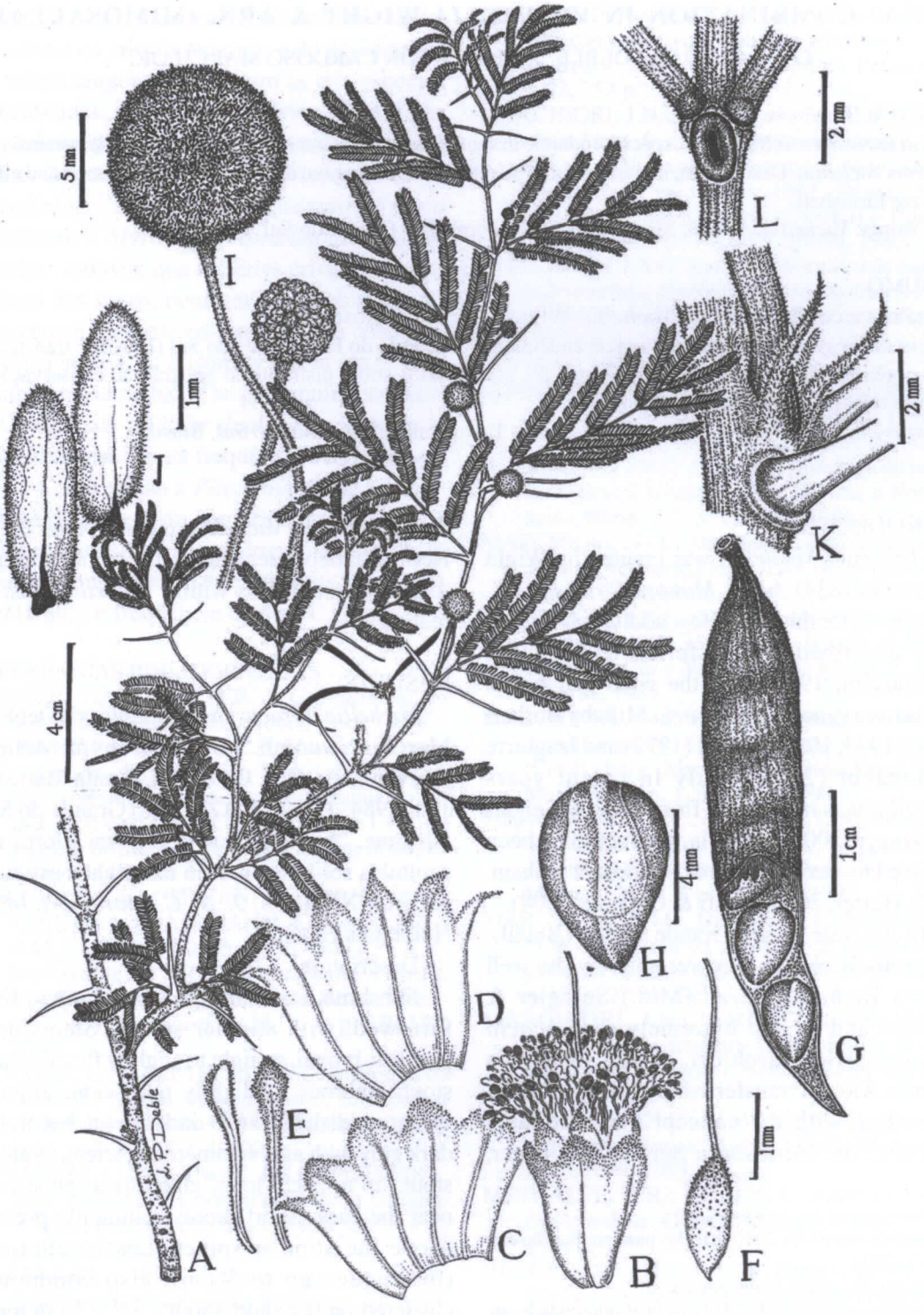

FIGURE 1 – *Vachellia ibirocayensis* (Marchiori) Deble & Marchiori. Branch (A). Flower (B). Calyx (C). Corolla (D). Floral bract (E). gynoecium (F). Legume (G). seeds (H). Inflorescence and immature inflorescence (I). Leaflets, adaxial and abaxial surface (J). Leaf base and stipular spines base (K). Peciolar gland (L). A-F, I-L of *Marchiori 1403*. G-H of *Marchiori 1410*.

pinna pair, sessile, circular-oblong, 1.2 – 1.6 mm long, reddish-brown, doughnut-shaped, pubescent. Rachis adaxially grooved, 2.8 – 6 cm long, glabrescent, with a sessile, nearly circular gland, 0.4 – 0.5 mm long, present between the upper pinna pair. Pinnae 2 to 6 pairs per leaf, 2.5 – 3.5 cm long. Leaflets 17 to 27 pairs per pinna, opposite, oblong, 2 – 3 mm long, 0.8–0.9 mm wide, sparsely pubescent; central veins conspicuous in abaxial surface, the lateral veins rarely evident; base oblique, margins ciliate, apex slightly acute to obtuse. Inflorescence a densely flowered globose capitula with 9 – 11 mm diameter, solitary. Peduncles 1.8 – 3 cm long, reddish-brown, pubescent, densely clothed by short trichomes, become glabrous with age. Involucre 4 – 5 lobed, located at the base of the capitula, glabrescent. Floral bracts linear-spathulate, 1.5 – 2.2 mm long, margin ciliate, deciduous. Flowers sessile, yellowish; calyx 4 – 6 lobed, 1.4 – 2 mm long; lobes obtuse, pubescent in the distal third; corolla 5-lobed, 2.0 – 2.5 mm long; lobes acute, glabrous to pubescent in the distal third; stamens 70 – 100; filaments 2.5 – 4 mm long; anthers rimose; gynoecium 2.5 – 4.5 mm long; ovary pubescent, 1 – 1.5 mm long; style filiform, short or up to 3 mm long. Legume solitary or up to 6 by peduncle; reddish-brown to dark brown, become black with age, linear-elliptic to linear-oblong, straight to slightly falcate, flattened, not constricted between the seeds, 5 – 7 cm long, 0.6 – 0.9 cm wide, coriaceous, striate, pubescent and with scattered brownish trichomes, become glabrous with age, eglandular, indehiscent, apex acute. Seeds uniseriate, imbedded in white pulpy material, light brown, ovoid to elliptic, slightly flattened, and 5.5 – 7.5 mm long, smooth.

Comments:

Vachellia ibirocayensis is entirely related with *Vachellia astringens* (Gill.) Speg., species with geographic distribution in Argentina and Uruguay (Paysandú department); however, *Vachellia ibirocayensis* is a subshrub with 1 – 2 m tall (vs. shrub to tree, with 4 – 12 m tall), with solitary capitula (vs. usually in clusters of 2 – 6 capitula), with 9 – 11 mm diam. (vs. 6 – 9 mm diam.) and legume with 5 – 7 cm long, 0.6 – 0.9 cm wide (vs. 8 – 14 cm long, 0.9 – 1.2 cm wide). The species is also related with *Vachellia farnesiana* (L.) Wight & Arn., but differs by solitary capitula (vs. usually in clusters of 2 – 3) and the size and shape of legumes (linear-elliptic to linear-oblong, 5 – 7 cm long, 0.6 – 0.9 cm wide vs. oblong, 3 – 6 cm long, 0.9 – 1.3 cm wide).

Geographic distribution and conservation:

Vachellia ibirocayensis grows on stony grasslands and ravines near to Ibirocai and Ibirocai-mirim rivers, being probably endemic in this region. The populations are fragmented and with few individuals. Due to the reduced area of occurrence, rarity, fragmentation of populations, and observed threats, it seems prudent to include *V. ibirocayensis* in the Critically Endangered category of the IUCN Red List of endangered plant species according to the following criteria (IUCN, 2001): CR B1a,b (i,ii,iii,iv), C2a(i).

REFERENCES

BANFI E., GALASSO, G. New combinations in *Vachellia* Wight & Arn., formerly *Acacia* Mill. s.s. (Fabaceae). *Atti Soc. It. Sci. Nat. Museo Civ. Stor. Nat Milano, v.*149, n.1, p. 149-150, 2008.

BURKART, A. Leguminosae. In: CABRERA, A. L. (ed.). *Flora Prov. Buenos Aires*, v.3, p. 394-647, 1967.

BURKART, A. Leguminosas Mimosoideas. I. *Acacia. Fl. Ilustr. Catarinense*, p. 17-48, 1979.

BURKART, A. Leguminosae, in: TRONCOSO, N., BACIGALUPO, N. (eds.). *Fl. Ilustr. Entre Ríos* (Argentina), v.6, n.3, p. 442-763, 1987.

HURTER, P. J. H. New combinations in *Vachellia*. In: MABBERLEY, D.J. *Mabberley's Plant-Book*, 3 ed. Cambridge: Cambridge University Press, 2008. p. 1021.

IZAGUIRRE, P.; BEYHAUT, R. Las Leguminosas en Uruguay y regiones vecinas. Parte 2 y 3. Tribu 5. Acacieae. XVIII. *Acacia*. Montevideo: Hemisferio Sur, 2003. p. 203-235.

KODELA, P. G; WILSON, P. G. New combinations in the genus *Vachellia* (Fabaceae: Mimosoideae) from Australia. *Telopea,* v. 11, n. 2, p. 233-244, 2006.

SPEGAZZINI, C. Acacieas Argentinas. *Bol. Acad. Nac. Cs. Córdoba,* n.28, p. 163-226, 1923.

SEIGLER, D. S.; EBINGER, J. E. New combinations in the genus *Vachellia* (Fabaceae: Mimosoideae) from the New World. *Phytologia,* n. 87, p. 139–178, 2006.

WIGHT, R.; ARNOTT, G. *Prodromus Florae Peninsulae Indiae Orientalis*. London, 1834. p. 272.

VASSAL, J. Apport des recherche ontogéniques et seminologiques à l'étude morphologique, taxonomique et phylogénique de genre *Acacia*. *Trav. Lab. For. Univ. Toulouse,* v. 1, n. 8, p. 1-127, 1972.