

UNIVERSIDADE ESTADUAL DE CAMPINAS
SISTEMA DE BIBLIOTECAS DA UNICAMP
REPOSITÓRIO DA PRODUÇÃO CIENTÍFICA E INTELECTUAL DA UNICAMP

Versão do arquivo anexado / Version of attached file:

Versão do Editor / Published Version

Mais informações no site da editora / Further information on publisher's website:

<https://www.biotaxa.org/Phytotaxa/article/view/phytotaxa.184.3.6>

DOI: 10.11646/phytotaxa.184.3.6

Direitos autorais / Publisher's copyright statement:

©2014 by Magnolia Press. All rights reserved.

DIRETORIA DE TRATAMENTO DA INFORMAÇÃO

Cidade Universitária Zeferino Vaz Barão Geraldo

CEP 13083-970 – Campinas SP

Fone: (19) 3521-6493

<http://www.repositorio.unicamp.br>

A new species of *Deguelia* (Leguminosae, Papilionoideae) from the Brazilian Amazon Basin

RODRIGO A. CAMARGO^{1*} & ANA MARIA G. A. TOZZI¹

¹Programa de Pós-Graduação em Biologia Vegetal, Departamento de Biologia Vegetal, Instituto de Biologia, Universidade Estadual de Campinas, Rua Monteiro Lobato 255, Cidade Universitária Zeferino Vaz, Barão Geraldo, Campinas, SP, 13083-862, Brazil.

*Corresponding author; email: botanic79@gmail.com

Abstract

Deguelia decorticans, a new lianescent species of Leguminosae from the Brazilian Amazon, is here described and illustrated. The new species has flowers which resemble those of *Deguelia duckeana* and *Deguelia rariflora* and it might be closely related to them, probably forming a species complex. However, this new species can be easily distinguished by some morphological and reproductive characteristics.

Keywords: Amazon Basin, Neotropics, *Deguelia*, Leguminosae, new species, liana

Introduction

Deguelia Aublet (1775: 750) contains ca. 20 species of neotropical trees or scandent shrubs to lianas from the tribe Millettieae (Leguminosae, Papilionoideae). It is distributed from Panama to southeastern Brazil (São Paulo state), mostly in the Amazon Basin in forested habitats. Only one species occurs in the “Cerrado” domain, *D. nitidula* (Benth. 1860: 98) A. M. G. Azevedo & R. A. Camargo in Camargo & Tozzi (2014: 16), which has the widest distribution for the genus. *Deguelia* was first described for French Guiana (Aublet 1775) and later synonymized with *Derris* Loureiro (1790: 432) by Benth. (1860). Some species have been included in *Lonchocarpus* Kunth in Humboldt *et al.* (1824: 383) by some authors (Benth. 1839, 1860, 1862; Pittier 1917; Ducke 1925; Hermann 1947; Lemée 1952) or also in *Derris* (Benth. 1860, 1862; Macbride 1943; Ducke 1949), until the genus was reestablished (Geesink 1984). Tozzi (1989) studied the Brazilian *Deguelia* and described three new species (Tozzi 1994), whereas Sousa (2009) described a new species for Panama and Colombia. Recently, a synopsis of the Brazilian species was presented by Camargo & Tozzi (2014), with a key for the 15 recognized species.

The species of *Deguelia* can be distinguished from other neotropical Millettoid allies mainly by their pseudoracemose inflorescence whose secondary axes form brachyblasts with more than five flowers. *Deguelia* species vary in their habit (trees or lianas), number of leaflets (3–17) and fruit types (rarely elastic dehiscent, a few lately dehiscent with many seeds or more usually indehiscent, few seeded).

Here we describe a new *Deguelia* species, a scandent shrub collected in the Amazon Basin, first noticed during a visit to INPA herbarium for a generic revision.

Material & methods

Herbarium specimens from INPA (Manaus, Brazil) were examined locally and during a field trip, together with loans from HRCB (Rio Claro, Brazil) and available images from Re flora Virtual Herbarium (<http://reflora.jbrj.gov.br/jabot/PrincipalUC/PrincipalUC.do>). Morphological terms were based on Radford *et al.* (1974) and the terminology of the diagnosis was extracted from Stearn (1983). Flowers were rehydrated as usual and then glued on a stiff white paper and measured.

Taxonomy

Deguelia decorticans R.A. Camargo & A.M.G. Azevedo, *sp. nov.* (Fig. 1)

Species haec ab Deguelia duckeana A.M.G. Azevedo differt cortice decidua, stipellis praesentibus, foliolis, pedicellis et pistillis longioribus, bracteis et bracteolis lanceolatis (vs. ovatis).

Type:—BRAZIL. Amazonas: Humaitá, BR-230 (Rodovia Transamazônica), a 115 km de Humaitá, Reserva Indígena dos Tenharim, 6° 58' S, 62° 08' W, 13 April 1985, C.A.C. Ferreira 5444 (holotype INPA!; isotypes HRCB!, K!).

Scandent shrub to liana. Stems more or less sinuous, when young fissured with double indument, rufous, dense bristly and sparsely villous, then glabrescent with the bark peeling off in older stems, external layer grayish brown, internal layers cream to reddish brown. Stipules caducous. Leaves imparipinnate, 9–11 leaflets; petiole 6.9–15.7 cm long and rachis 10.3–19.8 cm long, both striate, densely rufous-bristly and sparsely villous; leaflets (7.5–)11.2–15.3 x (2.8–)3.4–6.8 cm, proximal pair usually smaller, narrowly elliptic to elliptic, apical oblanceolate to obovate, apex long-acuminate to cuspidate, base rounded, ventrally glabrous (except for small trichomes present on the midrib, very sparse), dorsally rufous-sericeous and hirsute on the midrib; petiolules 3.2–5.3 mm long; stipels 1.5–2.4 mm long, usually persistent, linear-triangular. Inflorescence pseudoracemose, (16.8–)21.1–43.2 cm long, 1–2 per node, densely rufous-bristly (with trichomes sometimes retrorse) and with sparse villous trichomes, sometimes dense at the base and becoming less frequent towards the apex; brachyblasts terete, 5–12 on first 10 cm, 11–24 on subsequent 10 cm; bracts 2.1–3.1 x 0.7–0.8 mm, lanceolate, dorsally tomentose, long trichomes sometimes present, bracteoles 1.5–2.1 x 0.5–0.7 mm, lanceolate, dorsally tomentose; pedicel 0.8–1.3 cm long, dense bristly. Calyx 5 dentate, dorsally rufous-tomentose; vexillary teeth almost totally united, 0.6–1.2 mm long, depressed ovate; carenal teeth 0.8–1.4 mm long, shallowly triangular, central tooth slightly longer. Corolla purple, lilac or pink; standard 1–1.2 x 1–1.2 cm, oblate to orbicular, apex emarginated, base slightly truncate, dorsally sericeous; wings 0.8–1.3 x 0.2–0.3 cm, oblong-spatulate, with sparse trichomes present at the base, dorsally; keel petals 0.9–1.2 x 0.3–0.5 cm, ovate-falcate, dense sericeous at the apex, dorsally. Stamens 7.4–11.2 mm long, pseudomonadelphous (vexillary stamen is free at the tube base but connate higher up with the remainder), glabrous; anthers 0.7–1.1 x 0.5–0.7 mm, oblong to elliptic. Ovary 6.5–7.8 mm long, rufous-sericeous, style 3.6–4.4 mm long, slightly curved, stigma short. Legume unknown.

Distribution and habitat:—only three Brazilian collections are known, one from southeastern Amazonas state, the second from southwestern Pará state, and a third collection from Rondônia state. It occurs in “terra firme” forests, altered forest borders or “capoeiras” with clay soils.

Etymology:—referring to the stem layers from which the bark peels off.

Additional specimens examined (paratypes):—BRAZIL. Pará: Itaituba, BR-163 (Estrada Santarém-Cuiabá), km 1109, 6° 50' S, 55° 30' W, 14 April 1983, *M.N. da Silva et al. 12* (INPA!). Rondônia, Porto Velho, ao longo da BR-364, 4 km W de Jaci Paraná, Ramal 500 m ao Sul, 14 April 2012, *M.F. Simon et al. 1483* (RB!, CEN).

Taxonomic notes:—This species is similar to *Deguelia rariflora* (Mart. ex Benth 1860: 98) G. P. Lewis & Acev.-Rodr. in Acevedo-Rodríguez & Strong (2012: 422) and *Deguelia duckeana* A.M.G. Azevedo in Tozzi (1994: 48), as they share flowers with conserved morphology, differing mainly in size, which we suggest to be a species complex. The new species, hereafter named *Deguelia decorticans*, can be distinguished by the peeling off the bark, the presence of stipels (character more usual in the trees of this genus), narrower, longer leaflets, pedicel size, and bract/bracteoles shape (Table 1). Additionally, the latter can be distinguished by the combination of types and distribution of their double indumentum, composed of short and long trichomes, presented on the lower surface of the leaflets: sericeous in *D. decorticans*, with hirsute trichomes densely distributed on the midrib, especially towards the proximal half, becoming sparse towards the apex and along the secondary veins; sericeous in *D. duckeana*, with sparse, long adpressed trichomes on the midrib and leaflet blade (that sometimes are dense only on the secondary veins); and pilose (short and erect intermixed with long and curved trichomes, feeling velutinous to the touch) in *D. rariflora*, with dense pilose (long and curved trichomes) on the midrib and secondary veins, becoming sparse near the apex. The type material may contain misused information on the label about the habit, referring it as a treelet and here it was interpreted as a scandent shrub, once this collection clearly shows sinuous branches.

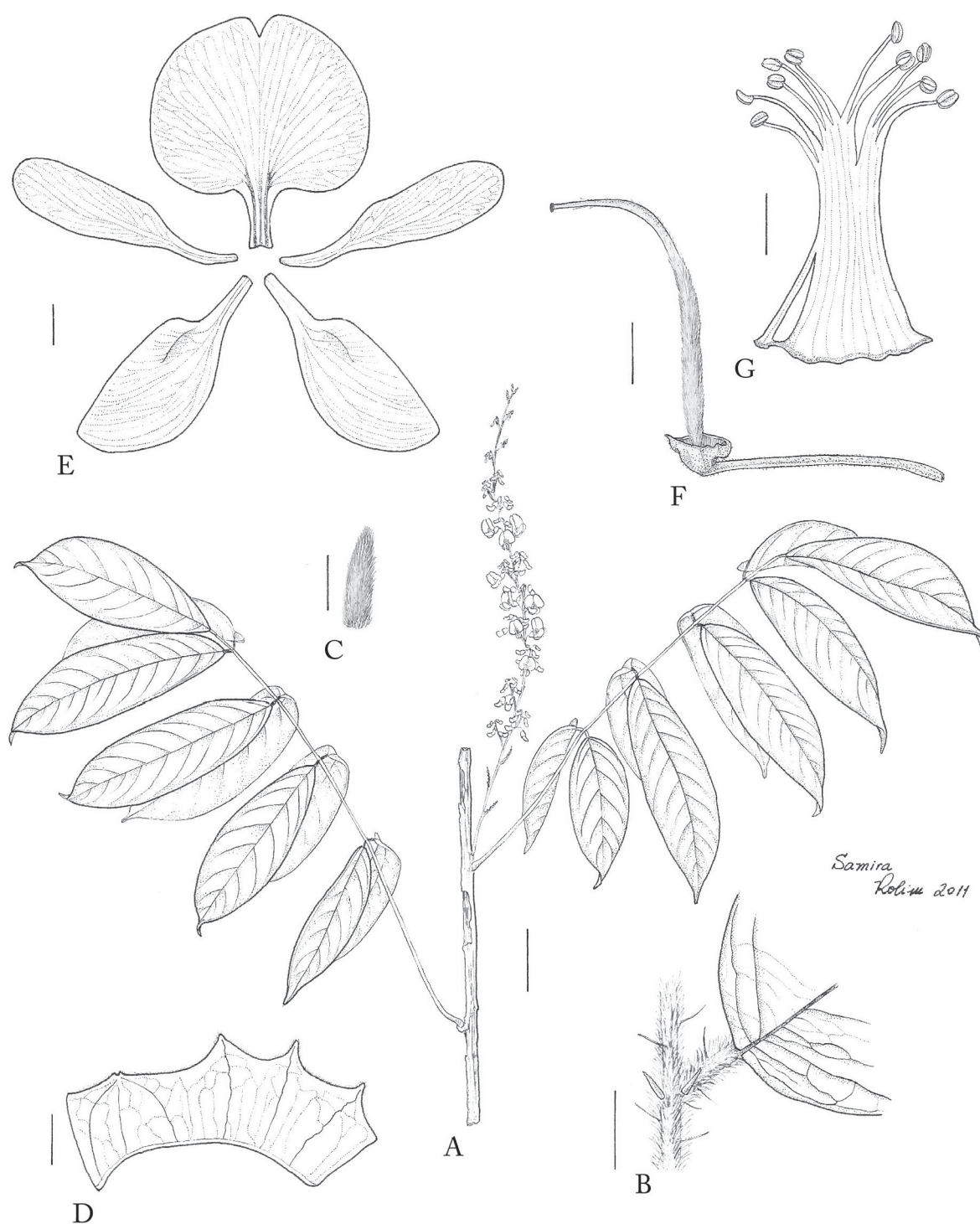


FIGURE 1. A. Flowering branch. B. Stipels and rachis showing double indumentum. C. Bracteole. D. Calyx, ventral view. E. Petals, ventral view (standard, wings and keel petals). F. Pedicel and pistil. G. Staminal tube, longitudinally opened. Scale bars A: 4 cm; B: 4 mm; C: 1 mm; D–G: 2 mm. A: drawn from *M.N. da Silva 12 et al.* (INPA); B: drawn from *C.A.C. Ferreira 5444* (HRCB); C–G: *C.A.C. Ferreira 5444* (INPA).

TABLE 1. Comparative morphology of *Deguelia decorticans* and its closely related species.

Character/Species	<i>Deguelia rariflora</i>	<i>Deguelia duckeana</i>	<i>Deguelia decorticans</i>
Bark	rugose	rugose	peeling off in layers
Stipels	absent	absent	present
Leaflet number	3–5	5–11	9–11
Leaflets	widely elliptic	elliptic	narrowly elliptic (rare elliptic)
Pedicel	0.1–0.2 cm	0.1–0.4 cm	0.8–1.3 cm
Bracts	ovate	ovate	lanceolate
Bracteoles	ovate	ovate	lanceolate
Standard (length)	0.8–0.9(–1) cm	0.9–1.1 cm	1–1.2 cm
Wings (length)	0.7–1 cm	0.8–1.1 cm	0.8–1.3 cm
Wings (shape)	elliptic-falcate	elliptic-falcate	oblong-spatulate
Legume	indehiscent	lately dehiscent	unknown

Acknowledgements

We are thankful to all herbarium curators that collaborated with loans of material, in special to Francisco José de Vasconcellos from INPA, that allowed the examination of material locally at INPA during two weeks and loaned some selected specimens. We also would like to thank CNPq, CAPES and PROCAD/Amazônia for the support and Samira Rolin for the illustration.

References

- Aublet, J.B.C.F. (1775) *Histoire des Plantes de la Guiane Française*. Vol. 2. Pierre François Didot Jeune, Paris, pp. 750–753.
<http://dx.doi.org/10.5962/bhl.title.48831>
- Acevedo-Rodríguez, P. & Strong, M.T. (Eds.) (2012) Catalogue of Seed Plants of the West Indies. *Smithsonian Contributions to Botany* 98: 1–1192.
<http://dx.doi.org/10.5479/si.0081024x.98.1>
- Benthams, G. (1839) Enumeration of the plants collected by Mr. Schomburgk in British Guiana. *Annals of Natural History* 3: 432–434.
<http://dx.doi.org/10.1080/03745483909443258>
- Benthams, G. (1860) Synopsis of Dalbergieae, a tribe of Leguminosae. *Journal of the Linnean Society, Botany* 4: 1–128.
<http://dx.doi.org/10.1111/j.1095-8339.1860.tb02464.x>
- Benthams, G. (1862) Leguminosae I. In: Martius, C.F.P. von, Endlicher, S. & Urban, I. (Eds.) *Flora Brasiliensis* 15(1). F. Fleischer, Lipsiae, 350 pp.
- Camargo, R.A. & Tozzi, A.M.G.A. (2014) A synopsis of the genus *Deguelia* (Leguminosae, Papilionoideae, Millettieae) in Brazil. *Brittonia* 66 (1): 12–32.
<http://dx.doi.org/10.1007/s12228-013-9302-4>
- Ducke, A. (1925) Plantes nouvelles ou peu connues de la région amazonienne III. *Arquivos do Jardim Botânico do Rio de Janeiro* 4: 318–320.
- Ducke, A. (1949) Notas sobre a Flora Neotropica - II. As leguminosas da Amazônia Brasileira. *Boletim Técnico do Instituto Agrônomo do Norte* 18: 171–200.
- Hermann, F.J. (1947) The amazonian varieties of *Lonchocarpus nicou*, a rotenone-yielding plant. *Journal of the Washington Academy of Sciences* 37 (4): 111–113.
- Kunth, C.S. (1824) [1823] *Lonchocarpus*. In: Humboldt, F.W.H.A. von, Bonpland, A.J.A. & Kunth, C.S. (Eds.) *Nova Genera et Species Plantarum*. Vol. 6. Gide Filium, Paris, pp. 383–385.
- Lemée, A. (1952) Papilionacées. *Flore de la Guyane Française*. Librairie Le Chevalier, Paris. v. 2, pp. 106–128.
- Loureiro, J. de (1790) *Derris*. In: Loureiro, J. de (Ed.) *Flora Cochinchinensis* 2. Typis et Expensis Academicis, Lisboa, pp. 432–433.
<http://dx.doi.org/10.5962/bhl.title.560>
- Geesink, R. (1984) *Scala Millettiearum. A Survey of the genera of the tribe Millettieae (Leguminosae - Papilionoideae)*. Leiden Botanical Series 8. E. J. Brill & Leiden University Press, Leiden, 131 pp.
- Macbride, J.F. (1943) Flora do Peru. *Field Museum of Natural History, Botanical Series* 13 (3): 28–267.

- Pittier, H. (1917) The Middle American Species of *Lonchocarpus*. *Contributions from the United States National Herbarium* 20 (2): 37–93.
- Tozzi, A.M.G.A. (1989) Estudos taxonômicos dos gêneros *Lonchocarpus* Kunth e *Deguelia* Aubl. no Brasil. Tese (Doutorado em Biologia Vegetal). Universidade Estadual de Campinas, Campinas, 341 pp.
- Tozzi, A.M.G.A. (1994) Espécies novas de *Deguelia* Aubl. (Leguminosae – Papilionoideae – Millettieae). *Revista Brasileira de Botânica* 17 (1): 42–52.
- Radford, A.E., Dickison, W.C., Massey, J.R. & Bell, C.R. (1974) *Vascular Plant Systematics*. Harper & Row, New York, 891 pp.
- Sousa, M. (2009) El género *Deguelia* (Leguminosae, Papilionoideae, Millettieae) en Mesoamérica, una especie nueva e una combinación nueva. *Revista Mexicana de Biodiversidad* 80: 303–308.
- Stearn, W.T. (1983) *Botanical Latin* 3 ed. David & Charles, London, 566 pp.