



Aechmea nigribracteata (Bromeliaceae), a new species from southern Bahia, Brazil

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Abstract

Herein is described and illustrated a new *Aechmea* species. *Aechmea nigribracteata* grows in southern Bahia (Brazil), a region recognised as highly diverse in bromeliads. *Aechmea nigribracteata* belongs to *Aechmea* subg. *Chevaliera* and has completely dentate, blackish floral bracts and petals with two crenate-laciniate ligules.

Keywords: Atlantic Forest, Bromelioideae, Neotropics, Poales, northeastern Brazil

Introduction

Aechmea includes about 280 species classified into eight subgenera, occurring from Mexico to southern Brazil, Uruguay and northern Argentina (Butcher & Gouda cont. upd., Forzza *et al.* cont. upd., Smith & Downs 1979). In the Brazilian Atlantic Forest, the genus is particularly rich and is represented by 140 species (Martinelli *et al.* 2008, Forzza *et al.* cont. upd.).

Within *Aechmea*, the species with large leaves, rosettes clustered in dense clumps, strobiliform inflorescence, flowers subtended by stiff coriaceous floral bracts, and petals with ligules or callosities are traditionally classified into the *Aechmea* subg. *Chevaliera* (Smith & Downs 1979). In the most updated taxonomic revision, Sousa (2004) presented a treatment of *Aechmea* subg. *Chevaliera* comprising 21 species. However, in recent years this number has increased due the description of eight new species (Leme & Siqueira-Filho 2006, Leme 2009, Leme & Kollmann 2009, Leme 2010, Leme *et al.* 2010, Leme & Kollmann 2011, Leme *et al.* 2014). The general difficulties in sampling species of *A.* subg. *Chevaliera* due to their huge rosettes, massive inflorescences, large spines and often epiphytic habits (above 10 meters high) have left many species poorly studied and poorly sampled while other species are probably still waiting for a formal description (Leme & Siqueira-Filho 2006, Sousa 2004, Canela *et al.* 2003).

In this paper we describe, illustrate, and provide conservation and ecological information on a new species of *Aechmea* found in southern Bahia, northeastern Brazil.

Taxonomy

Aechmea nigribracteata J.R. Maciel, Louzada & M. Alves, *sp. nov.* (Fig. 1–2)

Aechmea nigribracteata is morphologically related to *A. depressa* as shown by huge rosettes with leaves of 150–230 cm long, but differs from that species by having its central axis elongated (vs. compressed), inflorescence 24–30 cm long (vs. 11–14 cm long), floral bracts blackish (vs. reddish), lanceolate (vs. oblong), wholly dentate (vs. serrate in apical portion only) and anthers narrowly bilobed at the base (vs. not bilobed).

Type:—BRAZIL. Bahia: Una, Entrada no Km 49 da BA-001, 15°13'19"S, 39°01'45"W, 31 May 2014 (fl., fr.), J.R. Maciel, L. Daneu, D. Cavalcanti & B.S. Amorim 1950 (holotype UFP!, isotype FR!).

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References

- Butcher, D. & Gouda, E.J. (2014) *The New Bromeliad Taxon List*. Available from: <http://BromTaxonList.floraPix.nl>. University Botanic Gardens, Utrecht (accessed 7 June 2014).
- Canela, M.B.F., Paz, N.P.L. & Wendt, T. (2003) Revision of the *Aechmea multiflora* complex (Bromeliaceae). *Botanical Journal of the Linnean Society* 143:189–196.
<http://dx.doi.org/10.1046/j.1095-8339.2003.00202.x>
- Fontoura, T. & Santos, F.A.M. (2010) Geographic distribution of epiphytic bromeliads of the Una region, Northeastern Brazil. *Biota Neotropica* 10: 127–131.
<http://dx.doi.org/10.1590/S1676-06032010000400017>
- Forzza, R.C., Costa, A., Siqueira-Filho, J.A., Martinelli, G., Monteiro, R.F., Santos-Silva, F., Saraiva, D.P., Paixão-Souza, B., Louzada, R.B. & Versieux, L.M. (2014) Bromeliaceae *In Lista de Espécies da Flora do Brasil*. Jardim Botânico do Rio de Janeiro. Available from: <http://reflora.jbrj.gov.br> (accessed 7 June 2014).
- IUCN Standards and Petitions Subcommittee (2013) *Guidelines for Using the IUCN Red List Categories and Criteria. Version 10.1*. Prepared by the Standards and Petitions Subcommittee. Available from: <http://www.iucnredlist.org/documents/RedListGuidelines.pdf>. (accessed 05 June 2014).
- Leme, E.M.C. & Kollmann, L.J.C. (2009) Two New Giant Bromelioids from the Atlantic Forest of Espírito Santo, Brazil. *Journal of the Bromeliad Society* 59: 55–63.
- Leme, E.M.C. & Kollmann, L.J.C. (2011) New species and a new combination of Brazilian Bromeliaceae. *Phytotaxa* 16: 1–36.
- Leme, E.M.C. & Siqueira-Filho, J.A. (2001) Studies in Bromeliaceae of northeastern Brazil I. *Selbyana* 22: 146–154.
- Leme, E.M.C. & Siqueira-Filho, J.A. (2006) Taxonomia de bromélias dos fragmentos de Mata Atlântica de Pernambuco e Alagoas. *In: Siqueira-Filho, J.A. & Leme, E.M.C. (Eds.) Fragmentos de Mata Atlântica do Nordeste - biodiversidade, conservação e suas bromélias*. Andrea Jakobsson Stúdio, Rio de Janeiro, pp. 191–382.
- Leme, E.M.C. (2009) A new *Aechmea* species from the mountains of Rio de Janeiro State, Brazil. *Journal of the Bromeliad Society* 59: 197–203.
- Leme, E.M.C. (2010) Miscellaneous new species of Brazilian Bromeliaceae. *Selbyana* 30: 129–146.
- Leme, E.M.C., Fraga, C.N., Kollmann, L.J.C., Brown, G.K., Till, W., Ribeiro, O.B.C., Machado, M.C., Monteiro, F.J.S. & Fontana, A.P. (2010) Miscellaneous new species in the Brazilian Bromeliaceae. *Rodriguésia* 61: 21–67.
- Leme, E.M.C., Till, W., Kollmann, L.J.C., Moura, R.L. de & Ribeiro, O.B.C. (2014) Miscellaneous new species of Brazilian Bromeliaceae – III. *Phytotaxa* 177: 61–100.
<http://dx.doi.org/10.11646/phytotaxa.177.2.1>
- Martinelli, G., Vieira, C.M., Gonzalez, M., Leitman, P., Piratininga, A., Costa, A.F. & Forzza, R.C. (2008) Bromeliaceae da Mata Atlântica Brasileira: lista de espécies, distribuição e conservação. *Rodriguésia* 59: 209–258.
- Smith, L.B. & Downs, R.J. (1979) Bromelioideae (Bromeliaceae). *In: Flora Neotropica* 14(3). Hafner Press, New York, pp. 1493–2142.
- Smith, L.B. (1937) Studies in the Bromeliaceae VIII. *Contributions from the Gray Herbarium of Harvard University* 117: 3–33.
- Smith, L.B. (1941) Bromeliáceas novas ou interessantes do Brasil. *Arquivos de Botânica do Estado de São Paulo* 1: 53–60.
- Sousa, G.M. (2004) Revisão taxonômica de *Aechmea* Ruiz & Pav. subg. *Chevaliera* (Gaudich. ex Beer) Baker – Bromelioideae, Bromeliaceae. *Doctoral Thesis*. Universidade de São Paulo.