

Hyperbaena domingensis (DC.) Benth. (Menispermaceae), new records for the Atlantic Forest from northeastern Brazil

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ABSTRACT: *Hyperbaena domingensis* (DC.) Benth. has new records for the Atlantic Forest from northeastern Brazil. It is found in lowland coastal, sub-montane and montane remnants of Atlantic Forest as part of the forest canopy or draped over edge shrubs and treelets. It can be recognized by the ovate to oblong leaves, spiciform or paniculiform inflorescence, dichlamydeous and 3-merous flowers, drupaceous and purple (at maturity) fruits, and horseshoe-shaped seeds. Comments, distribution map, and pictures are presented here.

Hyperbaena domingensis (DC.) Benth is distributed in tropical forests and ranges from coastal forests of the Antilles, Venezuela, Colombia, Bolivia, Guyana, Suriname, and French Guiana to eastern Brazil (Barneby 2001). The species has a disjunct distribution between the Atlantic and Amazon Forests and is cited as widely distributed in Brazil (Braga 2012). In the northeastern Brazilian region, *Hyperbaena domingensis* has been registered for the states of Bahia (Braga 2012) and Paraíba, (Barbosa *et al.* 2004) where it has been recorded in the montane Atlantic forest vegetation locally called “Brejos de Altitude”. The distribution is largely expanded here to include other states of northeastern Brazil.

Hyperbaena domingensis (DC.) Benth., J. Proc. Linn. Soc., Bot. 5: 50. 1861. (Figures 1-2) = *Cocculus domingensis* DC., Syst. Nat. 1: 528. 1817

Woody vine of the forest canopy or draped over edge shrubs and treelets. It is characterized by having leaves 3-16.5 x 6-7.5 cm, ovate to oblong; male inflorescence axillary, usually clustered, distinctly paniculate; bracts 0.5-1 mm long, lanceolate; bractlets 3, ca 0.5 mm long, ovate-lanceolate;; female inflorescence axillary, usually solitary, paniculate or racemose; bracts 1 mm long, lanceolate; bractlets 3, 0.6 mm long, lanceolate; flowers with sepals and petals 6 in 2 series each one, the outer 0.6-0.8 mm long, obovate, and the inner 0.8-1.2 mm long, ovate; stamens usually 6, filaments ca 0.4 mm long; carpels usually 3, oblong-ellipsoid, ca 0.8 mm long; fruits drupaceous, 1.0-2.2 x 0.7-1.3 cm, ellipsoid, purple (at maturity) and seeds 2 x 1 cm, and embryo horseshoe-shaped.

The species is further characterized by the lowermost pair of primary veins arising near the base of the leaf-blade, thus appearing triplinerved, the staminate flowers without sepals obovate and inner sepals ovate, the stamen filaments ca. 0.4 mm long, and the fruit 1.2-2.3 cm long (Mathias and Theobald 1981). Some samples of

H. domingensis are often misidentified as *Abuta Barrère ex* Aubl. (Costa and Sano 2007), however, the species differs by the dichlamydeous flowers, and the seeds horseshoe-shaped and lacking endosperm.

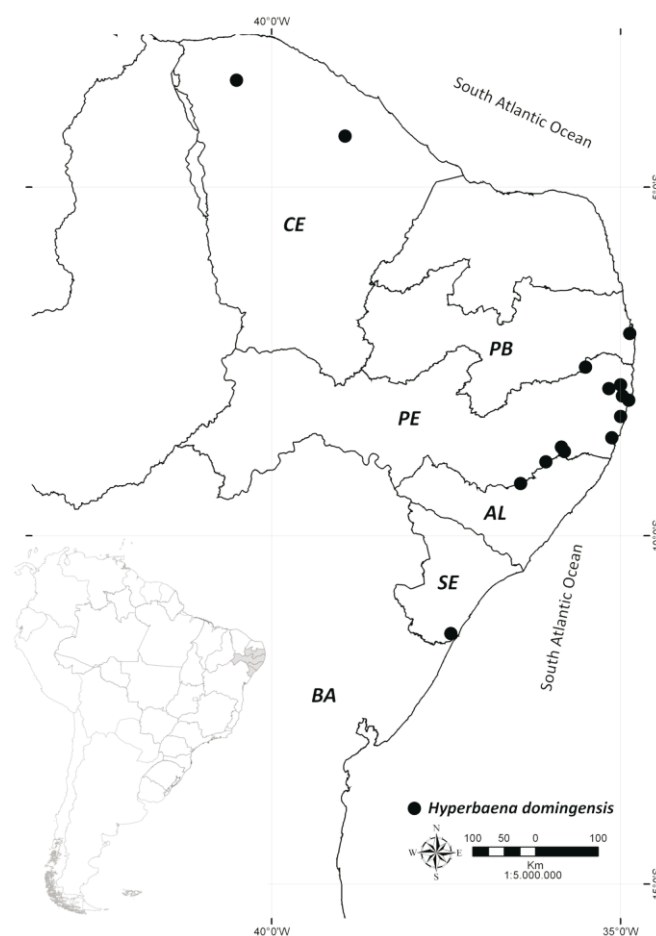


FIGURE 1. Distribution map of *Hyperbaena domingensis* (DC.) Benth. in the northern part of the Atlantic Forest. AL - Alagoas state; BA - Bahia state; CE - Ceará state; PB - Paraíba state; PE - Pernambuco state; SE - Sergipe state.

Key for genera of Menispermaceae from Atlantic Forest of Northeastern Brazil (Based on Kessler 1993).

1. Male and female flowers without petals. 2
- 1'. Male and female flowers with petals. 3

2. Male flower with stamens-6; female flower with staminodes-6; embryo vermiform.
..... ***Abuta* Barrère ex Aulbl.**
- 2'. Male flower with stamens-3; female flower without staminodes; embryo straight. ***Disciphania* Eichler**
3. Male flowers with sepals-9-36; female flowers with sepals-9-36. 4
- 3'. Male flower with sepals-4-6 and female flower with sepals-1 or 6. 6
4. Male and female flowers with sepals-9.
..... ***Borismene* Barneby**
- 4'. Male and female flowers with sepals-12-36. 5
5. Anthers with a transverse dehiscence; female flowers petals-6. ***Chondrodendron* Ruiz. and Pav.**
- 5'. Anthers with oblique dehiscence; female flower without petals. ***Sciadotenia* Miers**
6. Male flowers with sepals-4; female flower sepal-1, carpel-1. ***Cissampelos* L.**
- 6'. Male flowers with sepals-6; female flowers sepals-6, carpels-3-5 (rarely 2 or 1 in *Odontocarya*). 7
7. Stamens connate; seed with embryo straight.
..... ***Odontocarya* Miers**
- 7'. Stamens free; seed with embryo lineate or horseshoe. 8
8. Female flowers with petals-3, without staminodes.
..... ***Curarea* Barneby and Krukoff**
- 8'. Female flowers with petals-6, with staminodes. 9
9. Stamens latrorse; fruit with endocarp bony.
..... ***Telotoxicum* Moldenke**
- 9'. Stamens not latrorse; fruit with endocarp woody to crustaceous. 10
10. Anthers with transverse or oblique dehiscence; fruit with endosperm ruminant; embryo lineate.
..... ***Orthomene* Barneby and Krukoff**
- 10'. Anthers with longitudinal dehiscence; fruit with endocarp woody to crustaceous; embryo horseshoe.
..... ***Hyperbaena* Miers ex Benth**

The new records of *Hyperbaena domingensis* are from remnants of the northern part of the Atlantic Forest. It was found in lowland coastal forest of the states of Paraíba, Pernambuco, and Sergipe, in submontane forest of the states of Alagoas, and Pernambuco, and in montane forest ("Brejos de Altitude") of the states of Alagoas and Ceará (Figure 1).

Material examined: BRAZIL. Alagoas: Quebrangulo, REBIO Pedra Talhada, 26.IV.2012, fr., *B.S. Amorim 1556 et al.* (UFP, JPB, NY); São José da Lage, Usina Serra Grande, 25.I.2003, fr., *M. Oliveira and A.A. Grillo 1260* (UFP). Ceará: Guaramiranga, Serra do Baturité, 16.VI.1989, fr., *A. Figueirêdo s/n* (IPA-54829); Sobral, Serra da Meruoca, 11.III.1958, fr., *T.N. Guerra 546* (NY). Paraíba: João Pessoa, Jardim Botânico, 22.VIII. 2007, fl., *P.C. Gadelha-Neto 1752* (JPB); 20.X.2003, fl., *P.C. Gadelha-Neto 1008* (JPB); 20.XII.2002, fl., fr., *P.C. Gadelha-Neto and M. Costa-Santos 834* (JPB). Pernambuco: Cabo de Santo Agostinho,

Engenho Boa Vista, 17.X.1967, fr., *J.T. Costa 123-67* (UFP); Camaragibe, Aldeia, 14.IX.1951, bf., *A. Ducke and A. Lima 14* (PEUFR); Igarassu, Usina São José, 02.III. 2009, fr., *A. Melo et al. 346* (UFP); Jaqueira, RPPN Frei Caneca, 10.III.2011, fr., *B.S. Amorim 788 et al.* (UFP); 29.V.2012, fr., *B.S. Amorim 1568 et al.* (UFP, JPB); Maraial, Fazenda Céu Azul, 13.X.1957, fl., *A. Lima 57-2732* (IPA); Paudalho, Engenho Cajueiro Escuro, 02.X.1965, fl., *G. Teixeira 2866* (HST); Recife, Estação Macacos, 27.IX.1951, fl., *A. Ducke and A. Lima 3* (IPA); São Vicente Férrer, Mata do Estado, 13.I.2000, bf., *E.M.N. Ferraz et. al 811* (PEUFR); 19.V.1998, fr., *E.M.N. Ferraz and A.G. Bispo 295* (PEUFR); Sirinhaem, Mata Jitáí, 11.III.2004, fr., *M. Oliveita and A.A. Grillo 1553* (UFP). Sergipe: Santa Luzia Itanhi, Mata do Crasto, 16.IV.2012, fr., *B.S. Amorim 1560 et al.* (UFP); *R.M. Deda 94 et al.* (ASE).



FIGURE 2. *Hyperbaena domingensis* (DC.) Benth. A. General habit of the branch; B. Inflorescence with mature and immature fruits; C. Detail of horseshoe-shaped seed; D. Detail of horseshoe-shaped embryo.

ACKNOWLEDGMENTS: We are indebted to the organizations which funded our field research, including CNPq, the U.S. National Science Foundation (DEB-0946618), Velux Stiftung, and the Beneficia Foundation. We also thank the curators of the cited herbaria and M.Sc. Jefferson Maciel for the distribution map.

LITERATURE CITED

- Barbosa, M.R.V., M.F. Agra, E.V.S.B. Sampaio, J.P. Cunha and L.A. Andrade. 2004. Diversidade Florística na Mata do Pau-Ferro, Areia, Paraíba; p. 111-122 In K.C. Pôrto, J.J.P. Cabral and M. Tabarelli (ed.). *Brejos de Altitude em Pernambuco e Paraíba - História Natural, Ecologia e Conservação*. Brasília: Ministério do Meio Ambiente
- Barneby, R.C. 2001. Menispermaceae; p. 544-578 In P.E. Berry, K. Yatskievych, and B.K. Holst (ed.). *Flora of the Venezuelan Guayana*. Volume VI. Saint Louis: Missouri Botanical Garden Press.
- Braga, J.M.A. 2012. *Menispermaceae* In *Lista de Espécies da Flora do Brasil*. Jardim Botânico do Rio de Janeiro, Rio de Janeiro. Electronic Database accessible at <http://floradobrasil.jbrj.gov.br/2012/FB019756>. Captured on 3 May 2012.
- Costa, F.N. and P.T. Sano. 2007. Menispermaceae; p. 227-235 In T.S. Melhem, M.G.L. Wanderley, S.E. Martins, S.L. Jung-Mendaçolli, G.J. Shepherd, and M. Kirizawa (ed.). *Flora Fanerogâmica do Estado de São Paulo*. Volume V. São Paulo: Instituto de Botânica.
- Kessler, P.J. 1993. Menispermaceae; p. 402-418 In K. Kubitzki, J.G. Rohwer, V. Bittrich. (ed.). *The Families and Genera of Vascular Plants*. Volume II. Berlin: Spring-Verlag.
- Mathias, M.E. and W.L. Theobald. 1981. A Revision of the genus *Hyperbaena* (Menispermaceae). *Brittonia* 33(1): 81-104.

RECEIVED: June 2012

ACCEPTED: August 2012

PUBLISHED ONLINE: December 2012

EDITORIAL RESPONSIBILITY: James Byng