



# Two new species of *Licania* (Chrysobalanaceae) from the Mata Atlantica of eastern Brazil

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**Summary.** Recent collections have shown that material previously identified as *Licania hoehnei* Pilg. and *L. spicata* Hook. f. contain two previously undescribed species. The new species *L. farinacea* and *L. areolata* are described and illustrated and a key is given for all species of *Licania* sensu stricto of the forests of eastern Brazil.

**Key Words.** Atlantic coastal forests, Bahia, taxonomy.

## Introduction

Since the publication of the last monograph of the Chrysobalanaceae (Prance & Sothers 2003) a considerable number of new collections have been made, especially from eastern Brazil. This has made it possible to describe two new species of *Licania*, both of which I had noticed from single collections but concluded that more material was needed to describe them. They belong to a small group of *Licania* with axillary rather than petiolar stipules including *L. hoehnei* Pilg., *L. indurata* Pilg. and *L. spicata* Hook. f., and much of the material cited below was previously identified by me as one of those species. A key is given below to all species of *Licania* from eastern Brazil that remain in the genus *Licania* after the recent separation into other genera of about half of the species formerly in *Licania* (Sothers *et al.* 2016).

## New species of *Licania*

***Licania farinacea* Prance, sp. nov.** Type: Brazil. Bahia: Município de Una, Reserva Biológico do Mico-leão, km 46 road Ilhéus to Una, 15°09'S, 39°05'W, 26 May 1993 (fl), André M. Amorim *et al.* 1281 (holotype CEPEC, isotype K).

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*Trees* to 20 m tall. The young branches sparsely appressed-puberulous, glabrescent, lenticellate. *Leaves* with stipules linear, 2 mm long, axillary or inserted on extreme base of

petiole at junction with stem, early caducous; petioles 3–5 mm long, puberulous, eglandular, shallowly canaliculate; lamina oblong to elliptic, coriaceous, 3.5–10 × 2–4.8 cm, acuminate or apiculate at apex, the acumen 2–8 mm long, subcuneate to rounded at base, glabrous and shiny above, densely pale-brown pulverulent-farinaceous pubescent beneath (noted as pallid beneath when fresh in field notes); midrib plane and glabrous above slightly prominent and sparsely puberulous beneath; primary veins 6–7 pairs, plane above, prominulous beneath; secondary venation smooth and inconspicuous. *Inflorescence* of terminal and subterminal racemose panicles, rachis and branches brown-puberulous. *Bracts* and *bracteoles* ovate-triangular. 0.5–1 mm long, tomentellous, persistent. *Flowers* 1.5–2 mm long, with short pedicels 0.2–0.4 mm long. Receptacle campanulate, grey tomentellous on exterior, tomentose within; calyx lobes triangular, acute, c. 0.4 mm long, tomentellous on exterior, sparsely tomentellous within. Petals absent. Stamens 5, unilateral, filaments glabrous, free to base, shorter than calyx lobes. *Ovary* inserted at base of receptacle, tomentose; style inserted at base of ovary pubescent almost to apex. *Fruit* pyriform, narrowed to a stipe 1 cm long and the swollen part to 4 cm long, 3.5 cm broad; exocarp with a dense rufous-velutinous pubescence; pericarp thin, hard, fibrous. Figs. 1, 2.

**RECOGNITION.** This species is close to *Licania hoehnei* Pilg., but differs in the farinaceous pubescence of the leaf underside, the smaller flowers and larger fruit and the shorter petioles.

**HABITAT AND DISTRIBUTION.** Atlantic coastal forest of Bahia, Brazil. Map 1.



**Fig. 1.** *Licania farinacea*. A habit; B fruiting shoot with immature fruit; C detail of petiole with stipule; D abaxial leaf surface with indumentum removed; E distal portion of inflorescence; F flower lateral view; G flower, face view; H flower longitudinal section along axis of symmetry; J inner face of stamen; K lateral view of floral bracts; L floral bracts from above; M mature fruit; N section of mature fruit. A, C – L from Amorim *et al.* 1281, B, M, N from Jardim *et al.* 193. DRAWN BY ANDREW BROWN.

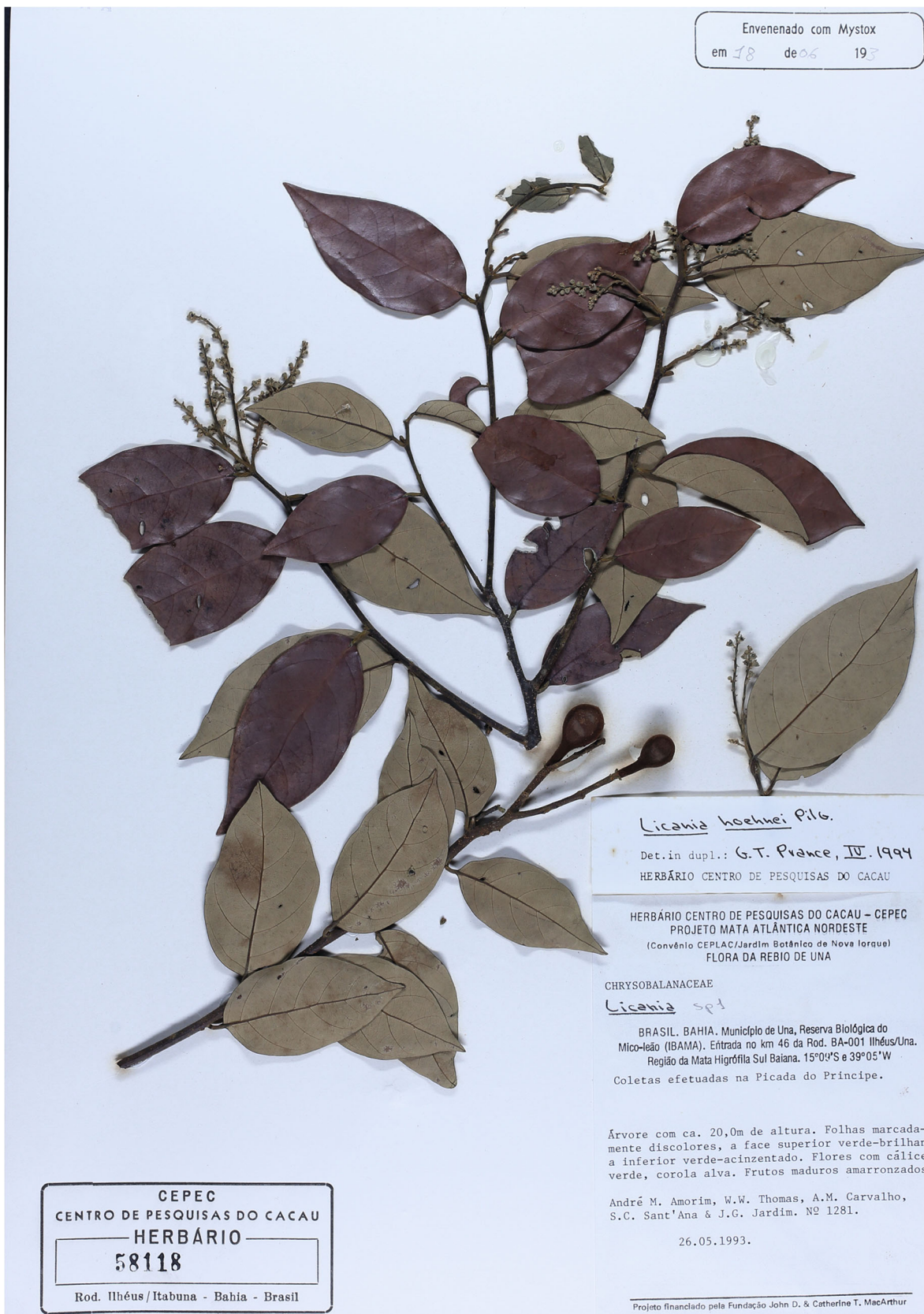
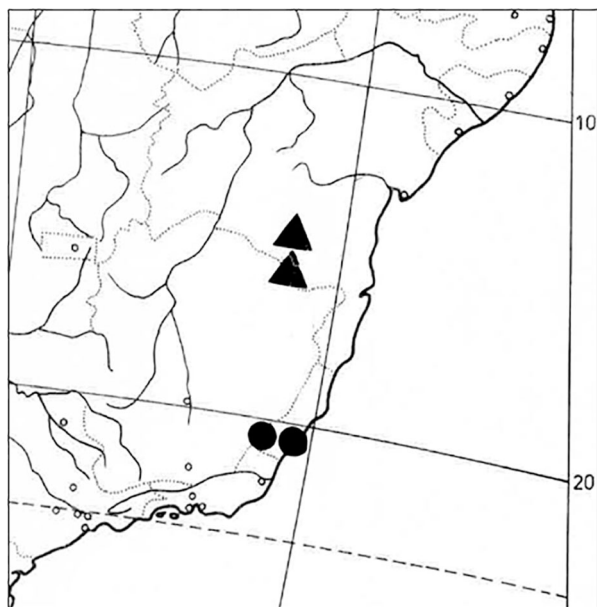


Fig. 2. Holotype of *Licania farinacea* Prance (Amorim 1281, courtesy of A. Amorim).





**Map 1.** Distribution of new species of *Licania*: *L. farinacea* Prance ▲; *L. areolata* Prance ●.

**SPECIMENS EXAMINED: BRAZIL.** Bahia: Município de Una, Reserva Biológico do Mico-leão, km 46 road Ilhéus to Una, 15°09'S, 39°05'W, 8 – 12 March 1993 (fl), *André M. Amorim et al.* 1121 (CEPEC, K, NY); same locality, 8 – 12 March 1993 (fl), *André M. Amorim et al.* 1138 (CEPEC, K, NY); 26 May 1993 (fl), *André M. Amorim et al.* 1281 (holotype CEPEC, isotype K); 13 – 14 July 1993 (fr), *J. G. Jardim et al.* 183 (CEPEC, K, NY); 12 Oct. 1995 (st), *André M. Amorim et al.* 1733 (CEPEC, K, NY); 30 Aug. 1995 (fr), *A. M. de Carvalho et al.* 6079 (CEPEC, K, NY); Município de Itacaré, 6.7 km S of junction with BA 654, on road to Serra Grande, 6 km W of Itacaré, 14°15'S, 39°16'W, 2 May 1993 (fl and young fr), *W. Thomas, A. Amorim & J. Jardim* 9790 (CEPEC, K, NY); Município de Ilhéus, 2 km NNE of Banco da Vitória road to Mata da Esperança, 28 Sept. 1994 (fr), *W. Thomas et al.* 10662 (CEPEC, K, NY); Ilhéus, Mata da Esperança, 2 km NNE do Banco da Vitória 14°46'38"S, 39°05'28"W, 12 March 1995 (fl), *A. M. de Carvalho, F. Garcia & A. Furlan* 5997 (CEPEC, K, NY).

**PHENOLOGY.** Flowering in March and April and fruiting July to September.

**NOTE.** I had put aside the collection *Thomas* 10662 as a new species with a note that more material was needed with flowers to describe it. There are now plenty of collections to describe this species, as cited above.

***Licania areolata* Prance, sp. nov.** Type: Brazil. Espírito Santo: Município de Domingos Martins, Road BR-262, near Vitor Hugo, Rio Jucu, Braço Sul, 17 Jan. 1995 (fl), *G. & M. Hatschbach* 61607 (holotype K).

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*Trees* to 25 m tall, the young branches sparsely puberulous, soon glabrous. *Leaves* with stipules axillary, ovate, 1 mm long, caducous; petioles 6 – 12 mm long, slightly canaliculate, eglandular; lamina oblong-elliptic, thinly coriaceous, 5 – 8.5 × 1.5 – 3.5 cm; finely acuminate at apex, the acumen 5 – 15 mm long, cuneate at base; glabrous above, lanate pubescent and deeply reticulate with stomatal cavities beneath; midrib slightly impressed above, prominent and sparsely puberulous beneath; primary veins 7 – 8 plane or slightly impressed above, prominulous beneath. *Inflorescence* of terminal and subterminal racemose panicles, rachis and branches appressed tomentellous. *Bracts* and *bracteoles* minute, triangular c 1 mm long, tomentellous on exterior, almost glabrous within. *Flowers* c. 2 mm long, sessile. *Receptacle* campanulate-globular, grey tomentellous on exterior, tomentose within; calyx lobes triangular, acute, 0.4 mm long, tomentellous on both surfaces. Petals absent. Stamens 5, unilateral, filaments shorter than calyx lobes. *Ovary* inserted at base, of receptacle, tomentose; style inserted at base of ovary sparse puberulous. *Fruit* orbicular and slightly narrowed towards peduncle, 4.5 × 4.5 cm, exocarp velvety rufous-brown. Fig. 3.

**RECOGNITION.** Close to *Licania hoehnei* Pilg. and *L. farinacea* Prance, but differs in the deeply reticulate leaf undersurface with stomatal cavities, the impressed midrib on the leaf upper surface and the larger fruit.

**HABITAT AND DISTRIBUTION.** Atlantic rainforest of Espírito Santo, Brazil. Map 1.

**SPECIMENS EXAMINED: BRAZIL.** Espírito Santo, Município Venda Nova do Imigrante: Alto Bananal, 900 m, 15 Jan. 1995 (fl), *G. & M. Hatchbach* 61510 (holotype, K); Município de Santa Maria de Jetibá, 5 km from Santa Maria de Jetibá, 20°2'43.5"S, 40°41'46"W, 12 Dec. 2004 (fr), *R. N. C. Teixeira, I. R. Lopes & M. M. M. Lopes* 116 (K); Município de Santa Maria de Jetibá, 2 km from Santa Maria de Jetibá, 20°1'35.5"S, 40°42'27.2"W, 24 Sept. 2005 (fr), *R. N. C. Teixeira, G. Mascarenhas & V. M. Moura* 189 (K).

**PHENOLOGY.** Collected in flower in January.

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**Key to species of *Licania* from Eastern Brazil**

1. Leaf lower surface glabrous.
  2. Leaf acuminate at apex, cuneate at base, membranous; receptacle urceolate . . . . . **L. glazioviana**
  2. Leaf rounded to obtuse at apex, rounded to cordate at base; receptacle campanulate . . **L. littoralis**
1. Leaf lower surface pubescent or with hair-filled stomatal cavities.
  3. Flowers in small cymules on long slender secondary branches less than 0.5 mm thick.
    4. Flowers c. 6 mm long; stipules 7 – 10 mm long; leaf lower surface with hair-filled stomatal cavities . . . . . **L. arianae**
    4. Flowers 2 – 4 mm long; stipules 1 – 3 mm long; leaf lower surface lanate, farinaceous or with stomatal cavities.
      5. Leaf lower surface with hair-filled stomatal cavities; petioles 8 – 10 mm long; leaf apex acute. . . . . **L. santosii**
      5. Leaf lower surface grey-farinaceous pubescent without cavities; petioles 1.5 – 6 mm; leaf apex rounded or acuminate
        6. Leaves coriaceous, apex rounded; fruit globose. . . . . **L. cymosa**
        6. Leaves chartaceous, apex acuminate; fruit pyriform. . . . . **L. hypoleuca**
  3. Flowers sessile or subsessile on primary branches of inflorescence.
    7. Leaf lower surface with hair-filled stomatal cavities.
      8. Stipules 11 – 13 mm long, navicular; petioles 8 – 12 mm long flowers 6 – 7.5 mm long. . . . . **L. naviculistipula**
      8. Stipules 1.5 – 2 mm long, linear; petioles 3 – 10 mm long; flowers 2 – 5 mm long.
        9. Leaf apex acute; petioles 3 – 5 mm long. . . . . **L. riedelii**
        9. Leaf apex acuminate; petioles 6 – 10 mm long . . . . . **L. areolata**
    7. Leaf lower surface lanate or pulverulent pubescent, but without stomatal cavities.
      10. Leaf lower surface pulverulent farinaceous.
        11. Fruit exocarp glabrous . . . . . **L. canescens**
        11. Fruit exocarp, brown-tomentellous . . . . . **L. farinacea**
      10. Leaf lower surface lanate pubescent.
        12. Stipules persistent and adnate to base of petiole.
          13. Exterior of flowers and inflorescence grey-puberulous not forming a complete covering . . . . . **L. kunthiana**
          13. Exterior of flowers densely tomentellous or tomentose with surfaces completely covered.
            14. Leaf apex acuminate to caudate
              15. Leaf lower surface brown pubescent . . . . . **L. micrantha**
              15. Leaf lower surface white-pubescent . . . . . **L. nitida**
            14. Leaf apex apiculate, lower surface grey pubescent. . . . . **L. bahiensis**
  12. Stipules axillary and usually caducous.
    16. Leaves 12 – 15 × 6 – 8.5 cm, apex apiculate . . . . . **L. lamentanda**
    16. Leaves 3 – 9.5 × 1 – 4.5 cm, apex usually acuminate or rounded in *L. hoehnei*.
      17. Inflorescence mainly of axillary unbranched spikes; leaves finely acuminate the acumen 5 – 15 mm long. . . . . **L. spicata**
      17. Inflorescence of racemose panicles, mainly terminal; leaves rounded or bluntly acuminate at apex
        18. Petioles 10 – 12 mm long, leaves 5 – 9.5 × 2.6 – 4.5 cm. . . . . **L. belemii**
        18. Petioles 4 – 8 mm long; leaves 3 – 8 × 1.5 – 3 cm.
          19. Leaf apex rounded to acute . . . . . **L. hoehnei**
          19. Leaf apex with acumen to 11 mm long. . . . . **L. indurata**



**Fig. 3.** *Licania areolata*. A habit; B petiole; C abaxial surface of leaf showing reticulate, areolate venation; D enlargement of part of inflorescence; E lateral view of flower; F view of flower from above; G flower section; H bracteoles from above; J lateral view of bracteoles; K stamen; L fruit. A – K from *Hatschbach et al.* 61607, L from *Teixeira et al.* 189. DRAWN BY ANDREW BROWN.

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