

# NEW TAXA OF AMAZONIAN CHRYSOBALANACEAE

Ghilleen T. Prance (\*)

## SUMMARY

Five new taxa of Amazonian Chrysobalanaceae are described based on recently collected material: *Couepia cidiana* Prance, *Hirtella radamii* Prance, *Licania heteromorpha* Benth. var. *revoluta* Prance, *Licania miltonii* Prance, and *Licania tocantina* Prance. The continued collection of many undescribed taxa indicates that there is still much to be done in the basic botanical inventory of Amazonia.

## INTRODUCTION

Recent collections sent for identification by the herbarium of INPA and MG contained several new taxa of Chrysobalanaceae from Brazilian Amazonia. These are now described and discussed and represent an additional update to my monograph of Chrysobalanaceae (Prance, 1972). Amazonia continues to be one of the largest sources of new species in the family indicating that the botanical inventory of the region is still far from complete. The five taxa described here come from five widely separated localities in four different states, Amazonas, Mato Grosso, Rondônia and Pará.

1. *Couepia cidiana* Prance, sp. nov. (Fig. 1)

Species *C. insignis*, *C. martinii*, *C. bondarii affinis*, receptaculo longiore, 30-40 mm longo ad basim

tomentoso; stipulis 2-2.5 cm longis, persistentibus; laminis foliorum nervis secundariis 26-35 jugis differt, a *C. martinii*, *C. bondarii* nervis secundariis anastamosantibus, base subcordato differt.

Treelet 8-10 m tall, the young branches tomentose. Leaf laminae coriaceous, oblong to oblong-lanceolate, 15-26 cm long, 7-9.5 cm broad, acuminate at apex, the acumen 7-10 mm long, subcordate at base, glabrous above, densely gray short-lanate beneath with contrasting brown tomentose venation; midrib prominulous above, tomentellous when young; prominent and tomentose beneath; primary veins 26-35 pairs, lightly impressed above, prominent and tomentose beneath, anastomosing ca 3 mm from margin to form a conspicuous marginal vein; secondary veins  $\pm$  parallel, prominulous; petioles 5-7 mm long, terete, eglandular, densely tomentose. Stipules linear, membranous, 2-2.5 cm long, persistent. Inflorescences few-flowered racemes, the rachis tomentose. Bracts and bracteoles persistent, 2-3.5 cm long, tomentose on exterior, glabrous within, ovate, acuminate. Receptacle cylindrical, 3-4 cm

(\*) The New York Botanical Garden, Bronx, New York, EE.UU.

long, densely velutinous tomentelous on exterior, tomentose within to base, sessile. Calyx lobes triangular, acute, tomentose on exterior, tomentose within except for glabrous lower portion, 10-13 mm long. Petals 5, white, glabrous on exterior, the margins ciliate. Stamens inserted around complete circle, numerous (ca 165), fused at base to form a tall ring  $\pm$  5 mm tall, the stamens inserted in several rows on exterior of ring, the interior of ring densely tomentose. Ovary inserted near mouth of tube, densely villous. Style sparsely hirsute pubescent on lower third. Fruit not seen.

TYPE. BRAZIL. Pará: Município de Oriximiná, Rio Paru do Oeste, left margin of Cachoeira Chuvisco, 7 Sept. 1980, fl **C. A. Cid, Ramos, Mota & Rosas 2261** (holotype, INPA 96602; isotypes FHO, NY).

ADDITIONAL MATERIAL. BRAZIL. Pará: Rio Cachorro, Serra do Cachorro, 16 km NW of Cachoeira Porteira, 22 June 1980, fl, **Martinielli 7052** (INPA, NY).

HABITAT. Forest on terra firme.

This species is quite distinct, but is closest to **C. insignis**, **C. martinii** and **C. bondarii**. It differs from all three in the tomentose interior of the receptacle, an uncommon feature in the genus which occurs in only one other species with a racemose inflorescence, the Andean **C. recurva** that is very different in other characters. **Couepia cidiana** also differs

from its three closest relatives in the much longer flowers, the persistent and longer stipules and the large number of primary leaf veins.

It is with pleasure that I dedicate this species to C. A. Cid of INPA, Manaus who has done much useful collection on Projeto Flora Amazônica expeditions.

2. **Hirtella radamii** Prance, sp. nov. (Fig. 2)

Species **H. tenuifoliae** affinis foliis minoribus, ramulis juvenilibus hispidis, pedicellis 12-16 mm longis differt; **H. racemosae** affinis foliis oblongo-lanceolatis, ramulis juvenilibus hispidis; pedicellis longioribus differt.

Shrub 3 m tall, the young branches hispid. Leaf laminae oblong-lanceolate, chartaceous, 5-8 cm long, 1.5-2.3 cm broad, acuminate at apex, the acumen 3-5 mm long, subcordate at base, glabrous on both surfaces; midrib prominulous above, prominent beneath; secondary veins 10-12 pairs, prominulous and glabrous on both surfaces; petioles 1-1.5 mm long, terete, sparsely hispid, eglandular. Stipules lanceolate, to 5 mm long, membraneous, caducous, with numerous long stipitate glands. Inflorescences of terminal racemes to 12 cm long, the rachis glabrous. Bracts and bracteoles 1.5-3 mm oblong, with 2 sessile glands towards apex, a few of the youngest bracteoles with 1 or 2 stipitate glands in addition to the sessile paired glands. Flowers ca 5 mm

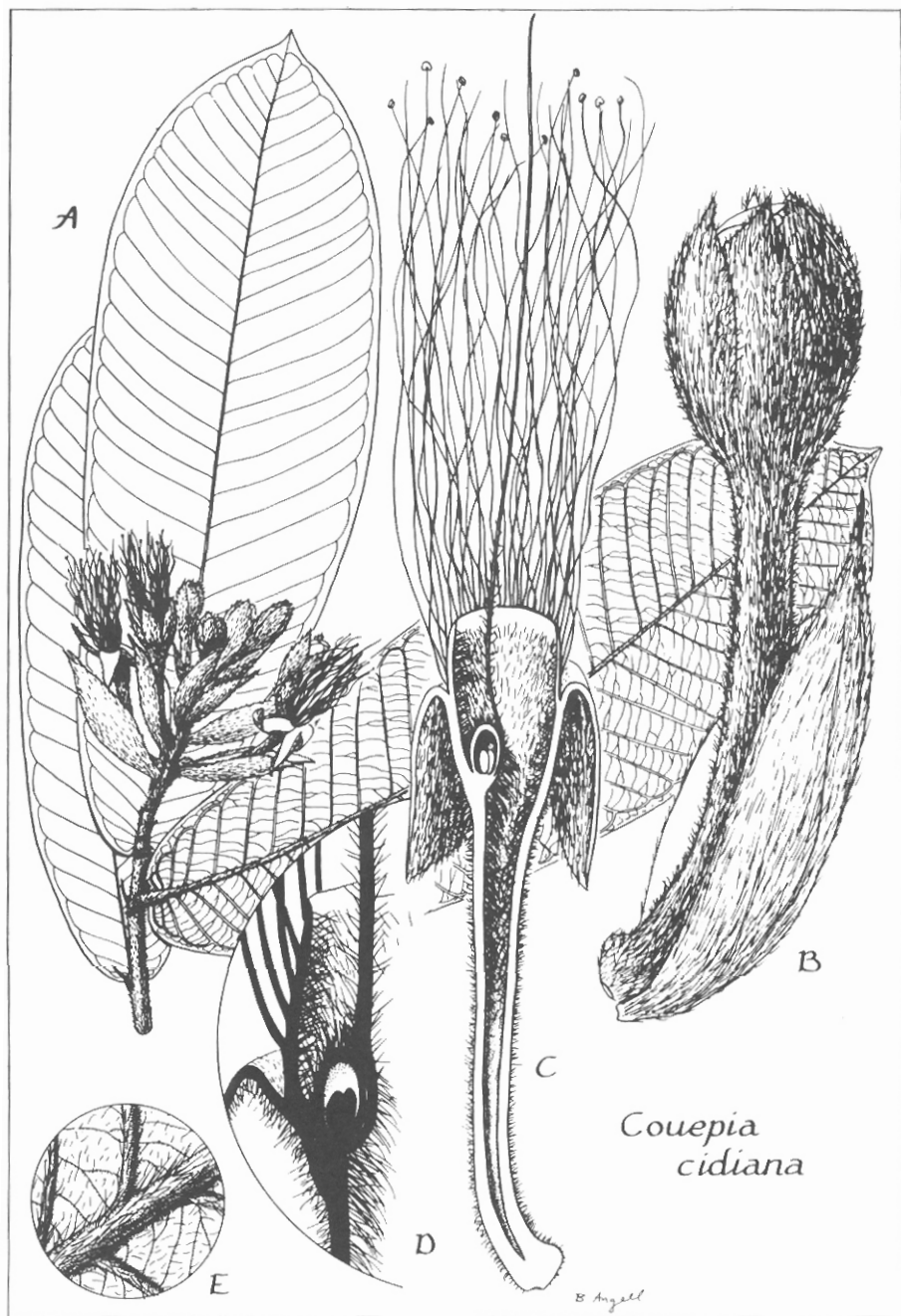


Fig. 1. *Couepia cidiana* Prance (Cid et al 2261): A, habit, X 0.5; B, flower and bract, X 2.5; C, flower section X 2.5; D, gynoecium and stamen base, X 5; E, leaf under surface, X 5.

long. Receptacle campanulate, glabrous on exterior, glabrous within except for deflexed hairs at throat; pedicels 12-16 mm long, extremely slender, eglandular. Calyx lobes acute, glabrous on exterior, puberulous within, eglandular. Petals 5, glabrous. Stamens 6, unilateral, the filaments far exceeding the calyx lobes, glabrous. Style hirsute for half of length. Ovary inserted at mouth of receptacle, pilose. Fruit not seen.

TYPE. BRAZIL. Território de Rondônia, Igarapé Preto, RADAM SC-20-XA Ponto 27, fl., 30 June 1975, **J. C. da Silva 100** (HOLOTYPE, MG).

LOCAL NAME: **Caripé torrado**.

This species is closest to **H. tenuifolia** from which it differs in the smaller leaves, the hispid pubescence of the young stem, and the much longer pedicels. It differs from **H. racemosa** in the narrow oblong-lanceolate leaves, the longer pedicels and the hispid young stems and from **H. sprucei** in the smaller leaves, the long pedicels, the bracteolar glands and absence of pedicel glands.

This species is named for the Brazilian Projeto RADAM which has collected many interesting plants and produced most useful vegetation maps of the Amazon region.

3. **Licania heteromorpha** Benth.  
var. **revoluta** Prance (Fig. 3)

Varietas ab ceteris varietatibus foliis parvioribus 2-4.5 longis X

1.1-2.3 cm latis, marginibus revolutis; antheris deltoideis differt.

TYPE. BRAZIL. Amazonas: 20 km NW of Manaus, Tarumã development area, 21 Mar 1981 (fl), **B. W. & S. P. Nelson 1058** (INPA, holotype; NY, isotype).

HABITAT. Forest on terra firme, clay soil.

This new variety is quite distinct from **L. heteromorpha** var. **heteromorpha** and the other varieties of the species by its much smaller, thickly coriaceous leaves with revolute margins and a rounded to retuse apex. It is possibly a distinct species, but I hesitate to describe it as such on the basis of a single collection and in this complex where there is a great deal of morphological variation in variety **heteromorpha**. It also differs from varieties of **L. heteromorpha** in the deltoid anthers which also occur in the closely related **L. intrapetiolaris** Spruce ex Hook. f. The anthers are distinct because the pointed apex is much darker in color than the broad basal portion in the dried material.

4. **Licania miltonii** Prance, sp. nov.  
(Fig. 4)

Species **L. caudata** affinis foliis chartaceis, parvioribus anguste oblongis apice cuspidato, petiolis brevioribus, 1-3 mm longis; staminibus 5 differt.

Tree 5 m tall, the young branches sparsely puberulous soon

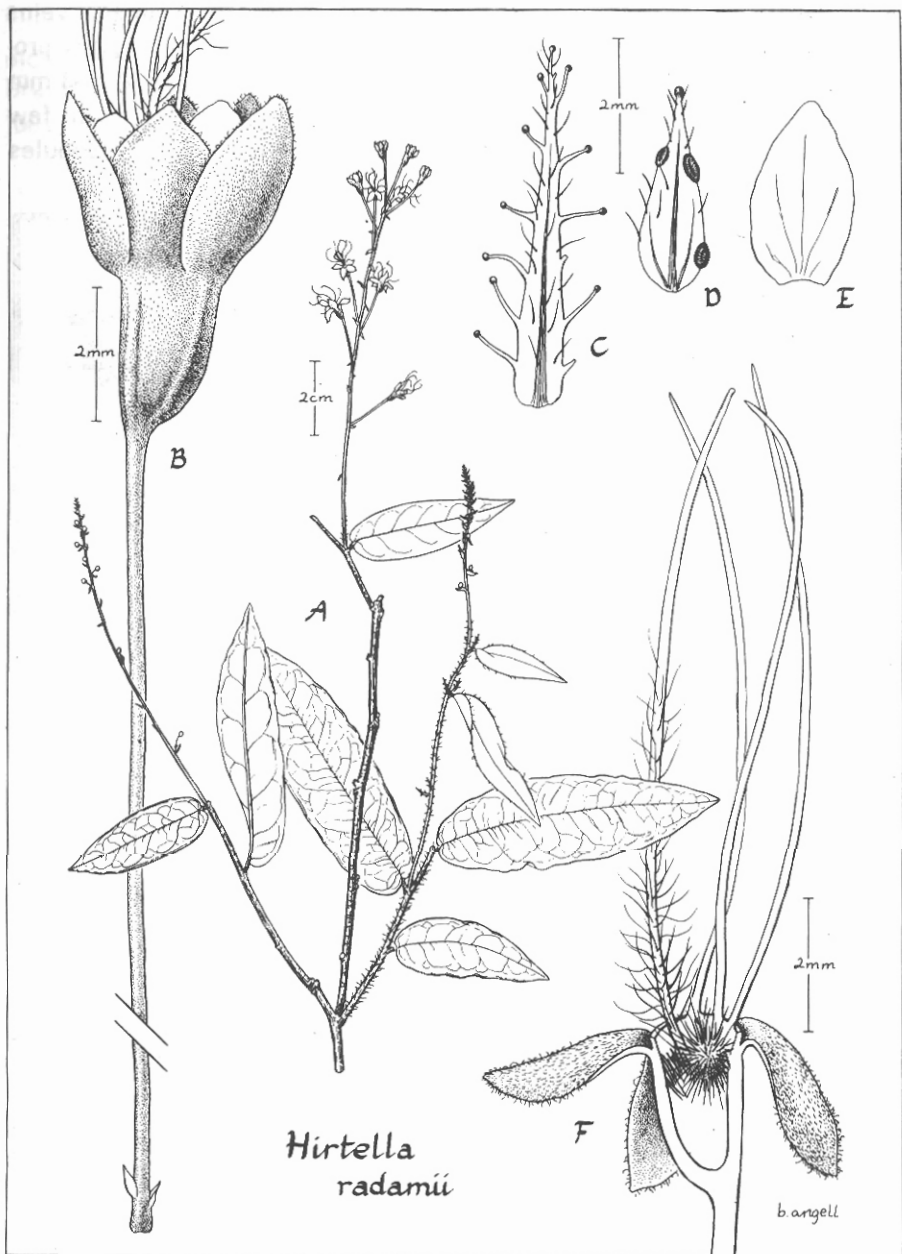


Fig. 2. *Hirtella radamii* (Silva 100): A, habit, X 0.5; B, flower X 9; C, stipule, X 9; D, bracteole, X 9; E, petal, X 9; F, flower section, X 9.

becoming glabrous. Leaves with lamina narrowly oblong, chartaceous, 4-10.2 cm long, 1.3-3.8 cm broad, cuspidate-acuminate at apex, the acumen 6-12 mm long, cuneate at base, glabrous on both surfaces; midrib slightly prominu-

lous above, prominent beneath, with a few stiff appressed hairs on both surfaces; primary veins 6-8 pairs, plane above, slightly prominulous beneath; petioles 1-3 mm long, terete, eglandular with few sparse appressed hairs. Stipules

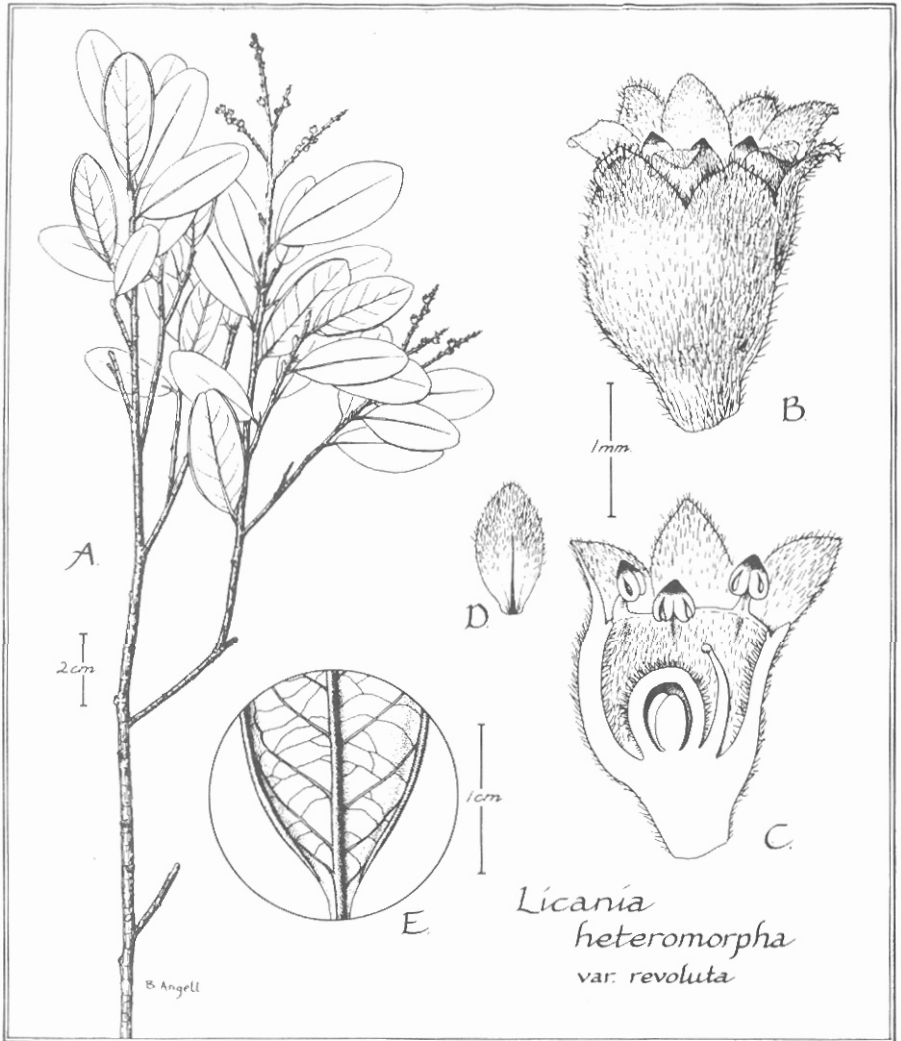


Fig. 3. *Licania heteromorpha* Benth. var. *revoluta* Prance: A, habit, B, flower; C, flower section; D, petal; E, leaf undersurface showing revolute margin.

intrapetiolar linear, persistent, ca 2 mm long. Inflorescences terminal and axillary little-branched panicles 1-3 cm long, the rachis and branches very sparsely hirsutulous. Flowers minute, 1-1.5 mm

long, borne solitary on short primary branches of inflorescence. Bracts and bracteoles minute, membranous, sparsely hirsutulous on exterior, persistent, entire. Receptacle campanulate, glabrous

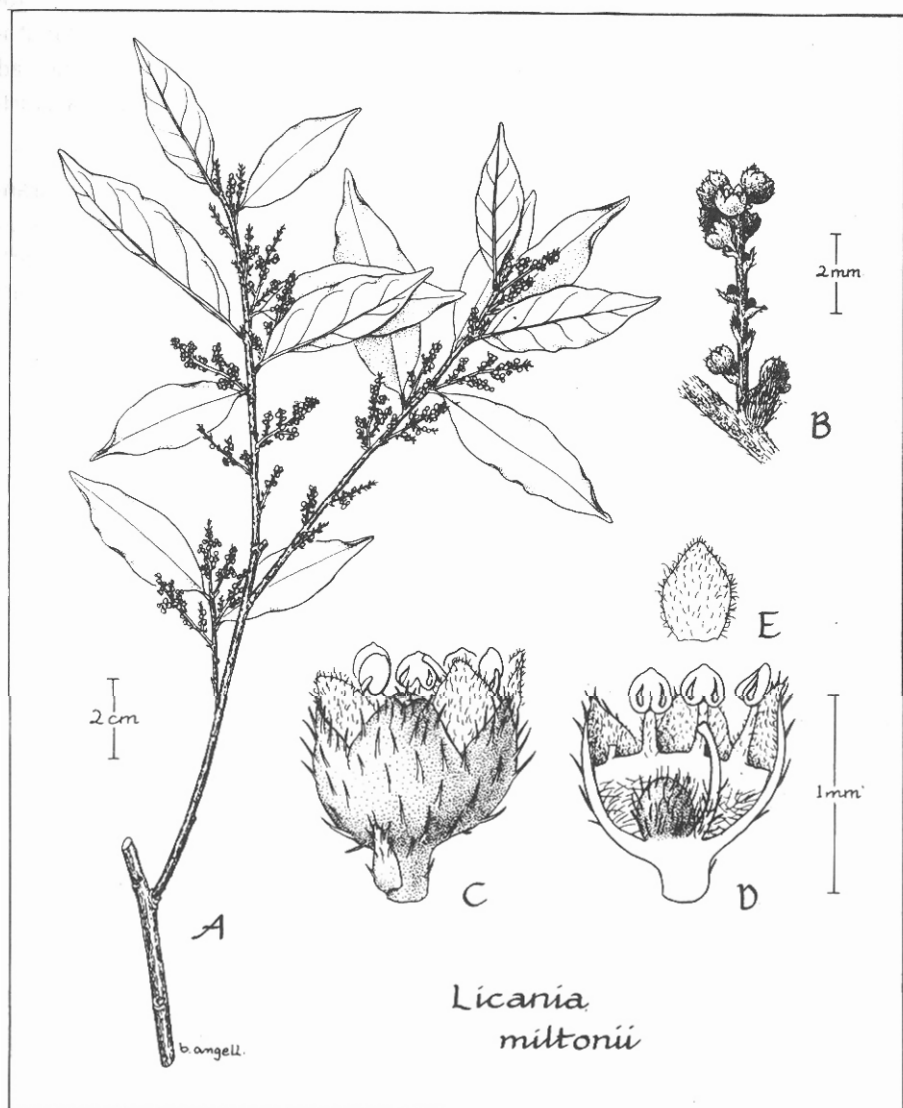


Fig. 4. *Licania miltonii* (Silva & Pinheiro 4296): A, habit, X 0.5; B, inflorescence, X 5; C, flower, X 25; D, flower section, X 25; E, petal, X 25.

or sparsely hirsutulous on exterior, tomentose on exterior; pedicels 0.2 mm long. Calyx lobes acute, glabrous with few stiff appressed hairs on exterior, the margins ciliate. Petals 5, tomentellous within towards apex, glabrous beneath, puberulous on outer surface. Stamens 5, fertile, inserted on short thick filaments connate at base, ovary inserted at base of receptacle, sparsely hirsute. Fruit ellipsoid, ca 2 cm long X 1 cm broad; epicarp smooth, glabrous; mesocarp thin; endocarp 0.5 mm thick, glabrous within.

TYPE. BRAZIL. Mato Grosso: Aripuanã, km 238 of road BR 174, Núcleo Juína, área Urbana, fl., 17 Jan 1979, **M. G. Silva & A. Pinheiro 4296** (HOLOTYPE, MG).

ADDITIONAL MATERIAL. BRAZIL. Mato Grosso: Aripuanã, Núcleo Juína, fr., 28 May 1978, **M. G. Silva & C. Rosário 4684** (MG).

HABITAT. Forest on terra firme on clay soil.

This species belongs to subgenus *Licania* section *Hymenopus*. It is most closely related to *Licania caudata* Prance but differs in the much smaller, narrower, chartaceous leaves with cuspidate not caudate apices and shorter petioles, the smaller flowers with fewer stamens with free filaments, and the smaller inflorescences.

It is with pleasure that I name this species for Milton G. Silva of the Museu Goeldi in Belém, Brazil

who has done much collecting in interesting parts of Amazonia and has been of great help to many of my field trips.

5. *Licania tocantina* Prance, sp. nov. (Fig. 5)

Species *L. triandrae* affinis, foliis chartaceis subtus venis lanato-tomentosis; stipulis 5 X 2 mm, ad petiolam adnatis; floribus parvioribus, petiolis glandulosis differt.

Tree 20 m tall, the young branches sparsely puberulous soon becoming glabrous. Leaves with laminae elliptic, chartaceous, 8-15 cm long, 3.5-7.2 cm broad, acuminate at apex, the acumen 7-12 mm long, subcuneate at base, glabrous above, with stomatal cavities filled by dense lanate pubescence beneath; midrib plane or slightly impressed above, prominent beneath; primary veins 8-13 pairs, prominent beneath, plane above; petioles 4-6 mm long, with two large conspicuous glands when young, canaliculate, tomentellous when young becoming glabrous and rugulose with age. Stipules triangular, ca 5 mm long,  $\pm$  2.5 mm broad at base, inserted on base of petioles, persistent. Inflorescences of terminal and subterminal racemose panicles, the rachis and branches puberulous. Flowers ca 1.5 mm long, sessile on primary branches of inflorescence. Bracts and bracteoles 1-2 mm long, triangular, persistent, puberulous on both surfaces. Receptacle campanulate, sessile, to-



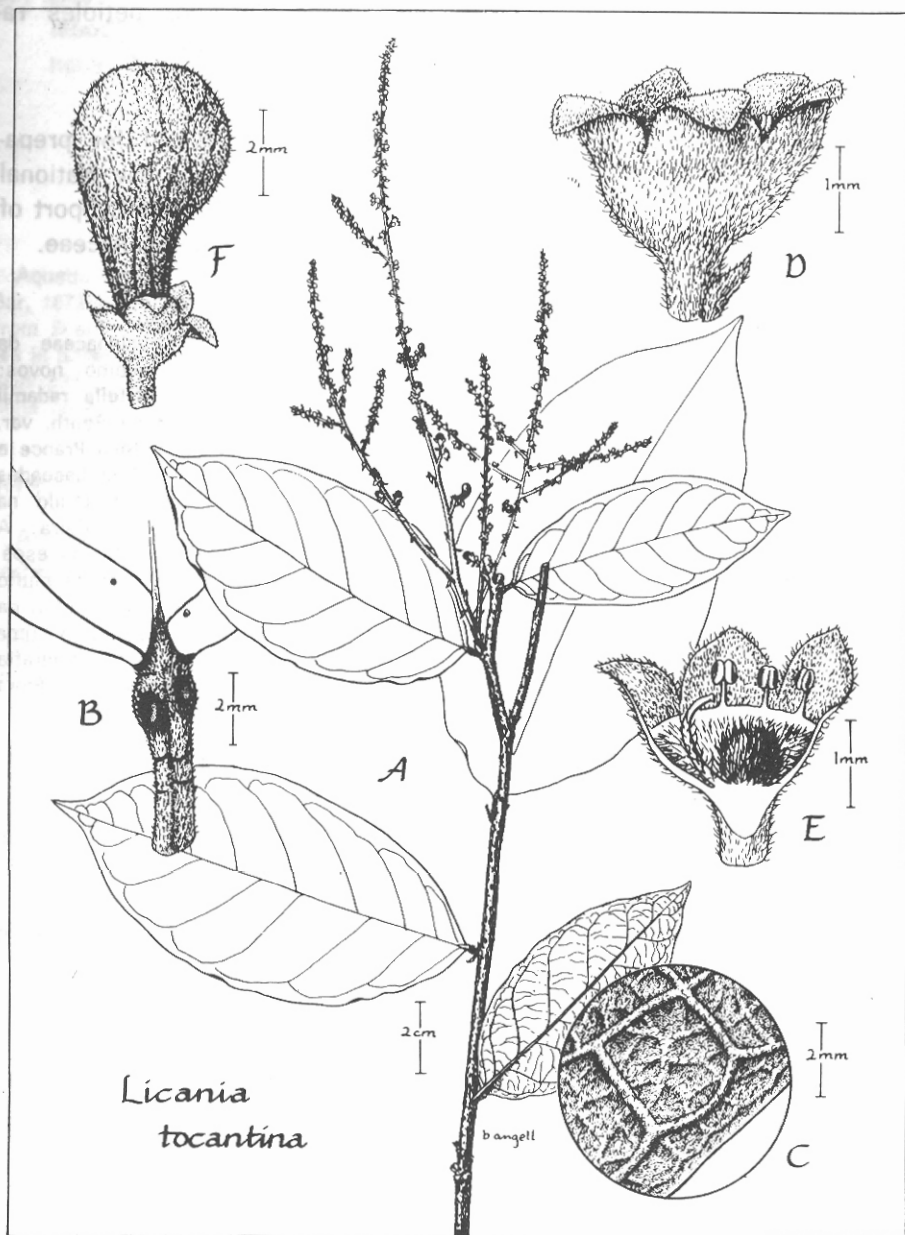


Fig. 5. *Licania tocantina* (Silva & Bahia 3508): A, habit, X 0.5; B, leaf base, showing petiolar glands,  $\times 5$ ; C, leaf lower surface,  $\times 5$ ; D, flower,  $\times 12$ ; E, flower section,  $\times 12$ ; F, young fruit,  $\times 6$ .

mentose on exterior; tomentose within. Calyx lobes acute, puberulous on both surfaces. Petals absent. Stamens 3, unilateral; filaments shorter than calyx lobes, glabrous. Ovary inserted at base of receptacle, pilose. Style equaling filaments, hirsute for three-fourths of length. Fruit not seen.

TYPE. BRAZIL. Pará: Rio Tocantins, Tucuruí, Breu Branco, fl., 11 May 1978, **M. G. Silva & R. Bahia** 3508 (HOLOTYPE, MG; ISOTYPE, INPA, NY).

HABITAT. Forest on terra firme, clay soil.

This species belongs to subgenus **Licania** section **Licania**. It is most closely related to **L. triandra** from which it differs in the thinner chartaceous leaves with deep stomatal cavities which are covered by a lanate pubescence which also extends over the venation, making the cavities much less conspicuous than in **L. triandra**. It is also differs in the broader stipules

which are adnate to the petioles and in the glandular petioles rather than leaf bases.

#### ACKNOWLEDGMENTS

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#### Resumo

Cinco taxa de Chrysobalanaceae da Amazônia são descritos como novos: **Couepia cidiana** Prance, **Hirtella radamii** Prance, **Licania heteromorpha** Benth. var. **revoluta** Prance, **Licania miltonii** Prance e **Licania tocantina** Prance. São baseados em material recentemente coletado na terra firme da Amazônia Brasileira. A continuação da coleção de tantas espécies novas mostra que ainda falta muito para se completar o inventário básico da flora amazônica. Este trabalho é uma continuação da atualização da monografia de Chrysobalanaceae publicado em Flora Neotrópica em 1972.

#### REFERENCE

- PRANCE, G.T.  
1972 — Monograph of Chrysobalanaceae. **Flora Neotropica**, 9: 1-410.

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