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WOOD ANATOMY OF THE NEOTROPICAL SAPOTACEAE XXIX
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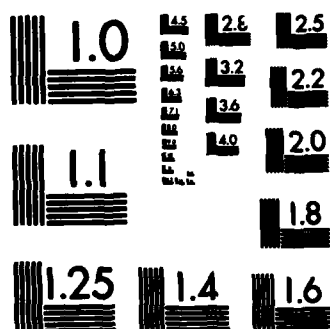
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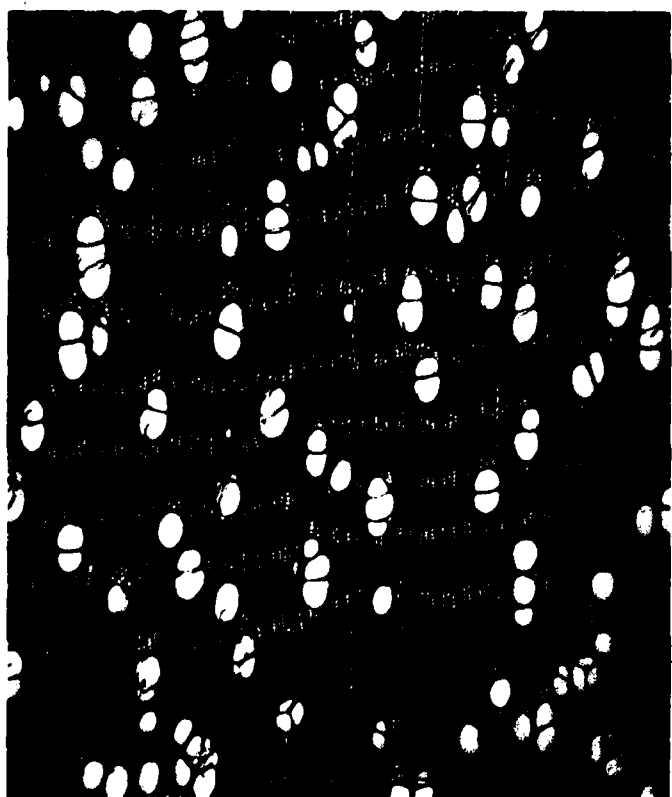
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**WOOD ANATOMY
OF THE
NEOTROPICAL SAPOTACEAE
XXIX. EGLERODENDRON**

RESEARCH PAPER FPL 417

FOREST PRODUCTS LABORATORY
FOREST SERVICE
U.S. DEPARTMENT OF AGRICULTURE
MADISON, WIS.

OCTOBER 1982



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Abstract

The monotypic genus Eglerodendron pariry (Ducke) Aubr. and Pellegr. is based on Lucuma pariry Ducke. The wood is physically similar to Pouteria but readily separated from the latter by (1) wider and more conspicuous axial parenchyma bands and (2) wood rays commonly 3 to 4 seriate, with an appreciably higher maximum body height. This species is known only from the Amazon Basin.

Preface

The Sapotaceae form an important part of the ecosystem in the neotropics; for example, limited inventories made in the Amazon Basin indicate that this family makes up about 25 percent of the standing timber volume there. This would represent an astronomical volume of timber but at present only a very small fraction is being utilized. Obviously, better information would help utilization--especially if that information can result in clear identification of species.

The Sapotaceae represent a well-marked and natural family but the homogeneous nature of their floral characters makes generic identification extremely difficult. This in turn is responsible for the extensive synonymy. Unfortunately, species continue to be named on the basis of flowering or fruiting material alone and this continues to add to the already confused state of affairs.

This paper on Eglerodendron is the twenty-ninth in a series describing the anatomy of the secondary xylem of the neotropical Sapotaceae. The earlier papers, all by the same author and under the same general heading, include:

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| I. Bumelia--Res. Pap. FPL 325 | XV. Sandwithiodoxa--Res. Pap. FPL 359 |
| II. Mastichodendron--Res. Pap. FPL 326 | XVI. Paralabatia--Res. Pap. FPL 360 |
| III. Dipholis--Res. Pap. FPL 327 | XVII. Gambeya--Res. Pap. FPL 361 |
| IV. Achrouteria--Res. Pap. FPL 328 | XVIII. Gomphiluma--Res. Pap. FPL 362 |
| V. Calocarpum--Res. Pap. FPL 329 | XIX. Chromolucuma--Res. Pap. FPL 363 |
| VI. Chloroluma--Res. Pap. FPL 330 | XX. Manilkara--Res. Pap. FPL 371 |
| VII. Chrysophyllum--Res. Pap. FPL 331 | XXI. Barylucuma--Res. Pap. FPL 372 |
| VIII. Diploon--Res. Pap. FPL 349 | XXII. Pradosia--Res. Pap. FPL 373 |
| IX. Pseudoxythece--Res. Pap. FPL 350 | XXIII. Gayella--Res. Pap. FPL 374 |
| X. Micropholis--Res. Pap. FPL 351 | XXIV. Ecclinusa--Res. Pap. FPL 395 |
| XI. Priurella--Res. Pap. FPL 352 | XXV. Ragala--Res. Pap. FPL 396 |
| XII. Neoxythece--Res. Pap. FPL 353 | XXVI. Myrtiluma--Res. Pap. FPL 397 |
| XIII. Podoluma--Res. Pap. FPL 354 | XXVII. Sarcaulus--Res. Pap. FPL 398 |
| XIV. Elaeoluma--Res. Pap. FPL 358 | XXVIII. Labatia--Res. Pap. FPL 416 |

Publication in this manner will afford interested anatomists and taxonomists the time to make known their opinions and all such information is hereby solicited. At the termination of this series the data will be assembled into a comprehensive unit.

WOOD ANATOMY OF THE NEOTROPICAL SAPOTACEAE

XXIX. EGLERODENDRON

By

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Introduction

The monotypic genus Eglerodendron was described by Aubréville and Pellegrin (1)^{3/} in 1961 based upon Lucuma pariry Ducke. The resulting new combination became Eglerodendron pariry (Ducke) Aubr. and Pellegr. with the synonyms Lucuma pariry Ducke and Pouteria pariry (Ducke) Baehni. In 1942 Baehni (3) maintained this species in Pouteria, however, in 1965 (4) he transferred it to Rhamnoluma pariry (Ducke) Baehni.

In Aubréville's (2) key to the genera, Eglerodendron is separated on the basis of its 5-merous flowers, five-chambered ovary, and the stamens are inserted at the base of the corolla tube; in Pouteria the flowers are 4-merous, the ovary is four chambered, and the stamens are inserted near the middle of the corolla tube.

This species is limited to the Amazon Basin and occasionally found in cultivation in that region. There is a fine specimen of this tree growing on the grounds of Museu Goeldi, Belem, Brazil, which has provided many herbarium specimens and is fully documented (Tree No. 729).

The wood is described here for the first time and the anatomical differences between Eglerodendron and Pouteria (sensu stricto) are of sufficient magnitude to substantiate its elevation to generic status.

1/ Pioneer Research Unit, Forest Products Laboratory.

2/ Maintained at Madison, Wis., in cooperation with the University of Wisconsin.

3/ Underlined numbers in parentheses refer to literature cited at end of this report.



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Description

The following description is based on three specimens, one of which is from the living tree (No. 729) on the grounds of Museu Goeldi in Belem, and the other two are Capucho Nos. 431 and 549, collected at the former Fordlandia plantations on the Rio Tapajoz.

General: Sapwood light brown, 6 to 10 cm thick and sharply demarcated from the reddish-brown heartwood. Wood hard and heavy with a specific gravity of 0.90 to 0.97; straight-grained; and with a low luster. Bark smooth, gray, about 7 mm thick; the inner bark brown; laminated. Froth test negative for sapwood but strongly positive for the heartwood.

Anatomical:

Pores diffuse; solitary pores present but occurring most commonly in radial multiples of 2 to 4 pores, occasionally in multiples of 5 to 7 pores. Maximum tangential diameter of the three specimens ranged from 134 to 158 μm (fig. 1).

Vessel member length averages ranged from 590 to 660 μm with an overall average of 620 μm . Tyloses thin-walled. Intervessel pitting 8 to 10 μm in diameter. Perforation plates simple.

Axial parenchyma typically banded and the bands are more or less uniformly spaced. The individual bands may be 2 to 7 seriate but most commonly are 3 to 4 seriate. The parenchyma cells are usually free of brown organic contents. Silica occasionally present but crystals and microcrystals are lacking.

Wood rays heterocellular; 1 to 4(5) seriate; the uniseriate rays few and low, up to 16 cells high; maximum body height of the widest rays 0.64 to 1.00 mm. The marginal cells may be square or upright but never so pronounced as in many other genera of this family (fig. 2); body cells tabular. Vessel-ray pitting irregular in shape and size. Ray cell contents light to dark brown and commonly associated with rounded silica particles which may attain diameters of 20 to 30 μm ; the silica particles are largest and most abundant in the ray cells adjacent to the axial parenchyma. Lateral walls of marginal cells pitted but not conspicuous. Rhombic and microcrystals lacking.

Wood fibers thick-walled; the fiber length averages ranged from 1.34 to 1.47 mm with an overall average of 1.42 mm. Vascular tracheids present.

Silica content of the larger Capucho specimens determined by chemical analysis was 1.29 and 1.30 percent of the oven-dry weight of the wood.

Diagnostic features: Sapwood light brown, heartwood reddish-brown; wood hard and heavy. Pores diffuse; axial parenchyma distinctly banded; wood rays up to 3 to 4(5) seriate and not conspicuously heterocellular; silica abundant in the wood rays. Physically similar to *Pouteria guianensis* and allies with intervessel pitting 8 to 10 μ m in diameter, but easily separated by the more conspicuous bands of axial parenchyma and the wider rays with an appreciably higher body portion. In *Pouteria* the axial parenchyma is generally 1 to 2 seriate and the wood rays are 1 to 2 seriate with tall upright marginals (figs. 3 and 4).

Literature Cited

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3. Baehni, Charles.
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Candollea IX:354.
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Boissiera 2:115.

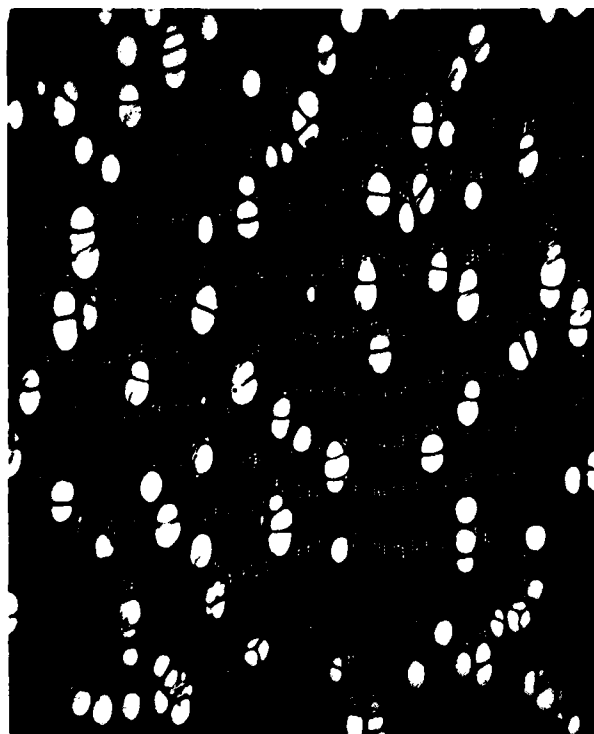


Figure 1.--Eglerodendron pariry, general typography of transverse surface at 30X (Capucho 549).

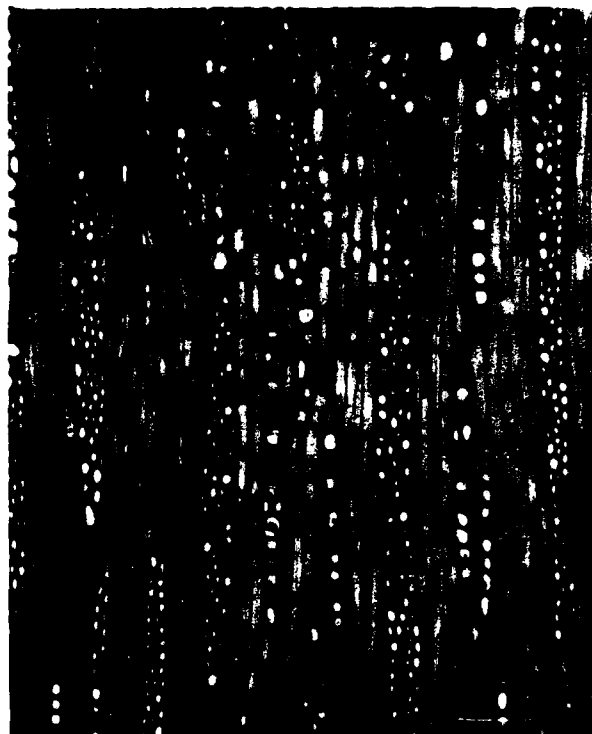


Figure 2.--Same as figure 1, tangential surface at 115X (Museu Goeldi Tree No. 729).

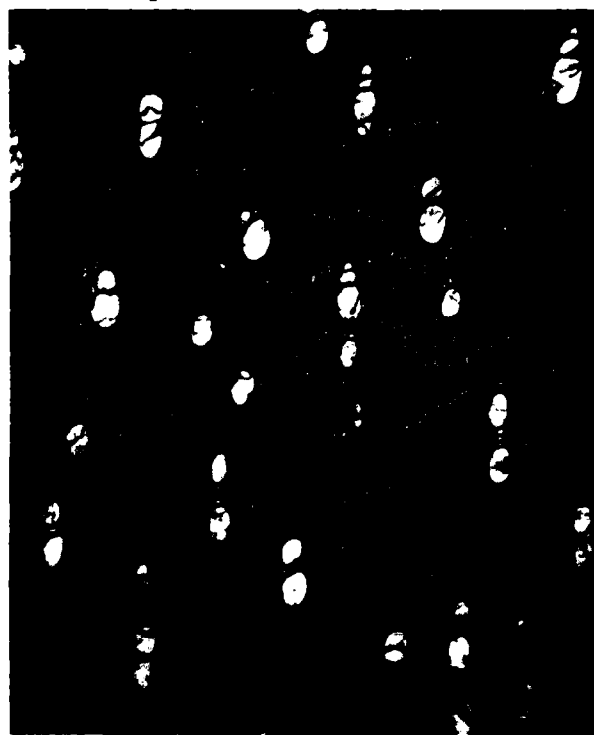


Figure 3.--Pouteria guianensis, transverse section, showing typically narrow bands of axial parenchyma at 30X (For. Dept. Guyana No. 3346).



Figure 4.--Same as figure 3, tangential section showing typically narrow wood rays with low body height at 115X (For. Dept. Guyana No. 3346).

U.S. Forest Products Laboratory

Wood anatomy of the neotropical Sapotaceae: XXIX.
Eglerodendron, by B. F. Kukachka, FPL.

4 p. (USDA For. Serv. Res. Pap. FPL 417).

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