This publication should not be reproduced without written permission from the ERDB Director.

RISE issues can be translated into regional dialects by DENR Regional Research Officers provided that proper acknowledgement of source be made on the back cover.

The official citation is:
Ecosystems Research and Development Bureau
Batikuling (Litsea leytenisis Merr.)
Vol. 29 No. 3
Research Information Series on Ecosystems
ERDB, College 4031, Laguna

For copies, please contact:
The Circulation Officer, Technology Transfer Division
ECOSYSTEMS RESEARCH AND DEVELOPMENT BUREAU
College 4031, Laguna
Tel. Nos. (049) 536-2229; 536-2269; 536-3221
FAX No. (049) 536-2850
circulationoffice@gmail.com

Re-entered as Second Class Mail on –
at the College Post Office, College, Laguna 4031
Permit no. 2011-27

If undelivered, please return to:
RISE
Ecosystems Research and Development Bureau
College 4031, Laguna

Department of Environment and Natural Resources
ECOSYSTEMS RESEARCH AND DEVELOPMENT BUREAU
College, Laguna 3041
Litsea leytensis commonly known as batikuling is a large tree widely found in the forests of Luzon, especially in Quezon Province. The batikuling wood is hard, pale in color and, at one time, was used for making agricultural tools handles and laundry paddles. Litsea leytensis is a species of plant in the Lauraceae family. It is endemic to the Philippines. It is threatened by habitat loss.

Batikuling is considered endangered due to logging and kaingin making and considered vulnerable. Due to this, it is important that the information provided can be used to conduct further research on tissue culture and other vegetative propagation methods.

HENRY A. ADORNADO, PhD
Director
# CONTENTS

**Batikuling**  
<table>
<thead>
<tr>
<th>Topic</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Common Name</td>
<td>3</td>
</tr>
<tr>
<td>Local Name</td>
<td>3</td>
</tr>
<tr>
<td>Scientific Name</td>
<td>3</td>
</tr>
<tr>
<td>Scientific Classification</td>
<td>3</td>
</tr>
<tr>
<td>Description</td>
<td>3</td>
</tr>
<tr>
<td>Bark Features</td>
<td>5</td>
</tr>
<tr>
<td>Leaf Characteristics</td>
<td>5</td>
</tr>
<tr>
<td>Flowers and Fruits Characteristics</td>
<td>6</td>
</tr>
<tr>
<td>Wood Characteristics</td>
<td>6</td>
</tr>
<tr>
<td>Mechanical Strength</td>
<td>7</td>
</tr>
<tr>
<td>Uses</td>
<td>7</td>
</tr>
<tr>
<td>Reproduction</td>
<td>8</td>
</tr>
<tr>
<td>Pests and Diseases</td>
<td>8</td>
</tr>
<tr>
<td>Conservation Status</td>
<td>9</td>
</tr>
<tr>
<td>Phenology</td>
<td>9</td>
</tr>
<tr>
<td>Seed Technology, Propagation, and Management</td>
<td>10</td>
</tr>
<tr>
<td>References</td>
<td>11</td>
</tr>
</tbody>
</table>
BATIKULING
Litsea leytensis Merr.

Compiled by
Marilyn Q. Landicho, PhD
For. Nolie A. Molina
For. Haira Jill E. Apolinario

A mature batikuling tree found at Laguna-Quezon
UP Land Grant, Siniloan, Laguna, Photo by Nolie A. Molina
Common Name: Batikuling (Fil.)

Local Name: Batikulin, Batikuling (Bik.); Batikuling (Sbl., Tag.); Magarilaw (Tag.); Yaban (Bng.)

Scientific Name: Litsea leytensis Merr.

Scientific Classification:

<table>
<thead>
<tr>
<th>Rank</th>
<th>Scientific Name</th>
<th>Common Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kingdom</td>
<td>Plantae</td>
<td>Plants</td>
</tr>
<tr>
<td>Sub-kingdom</td>
<td>Tracheobionta</td>
<td>Vascular plants</td>
</tr>
<tr>
<td>Super-division</td>
<td>Spermatophyta</td>
<td>Seed plants</td>
</tr>
<tr>
<td>Division</td>
<td>Magnoliophyta</td>
<td>Flowering plants</td>
</tr>
<tr>
<td>Family</td>
<td>Lauraceae</td>
<td></td>
</tr>
<tr>
<td>Genus</td>
<td>Litsea Merr.</td>
<td></td>
</tr>
<tr>
<td>Species</td>
<td>Litsea leytensis</td>
<td>Merr.</td>
</tr>
</tbody>
</table>

Description: Batikuling (Litsea leytensis Merr.) is a tree reaching a height of about 25 meters and diameter of 80 cm. Its habitat is in forest at low and medium altitudes. The distribution is in Luzon (Laguna, Bataan, Sorsogon and Quezon), Negros and Leyte. The habit of this tree is ramiflorous.
Batikuling tree, Photo by Nolie A. Molina
Bark Features

The bark is pale brown to gray; about 1 cm thick, ridged or wrinkled; the inner bark is yellowish.

Leaf Characteristics

The leaves are simple, alternate, and lanceolate to oblong; about 16-30 cm x 5.5-7 cm, very shiny green surface; glaucous underneath. The midrib is raised above, secondary veins in pairs, prominent above; the tertiary venation reticulate, not prominent below. The petiole is 2-3 cm long.
Flowers and Fruits Characteristics

Inflorescence in racemes, numerous, spreading, on the branches below the leaves, 5-10 cm long; umbels up to 12 in each raceme, in bud globose, peduncles stout, 3-4 mm long. Involucral bracts 4, broadly ovate, concave, obtuse, 6-8 mm long. Flowers are entirely glabrous, white, usually 5 in each umbel, 6-8 mm long, perianth segments 6, oblong to oblanceolate, obtuse to somewhat acuminate, 4-5 mm long, the basal gland of the inner filaments prominent, white capitate, 1-1.2 mm in diameter. The fruit is about 3 cm L x 2 cm W, ellipsoid ovoid, red to dark violet, about one half of fruits are covered by the perianth.

Wood Characteristics

Grain Direction : Cross
Texture : Moderately Course
Color : Yellowish brown
Green Specific Gravity : 0.74
Wood Density (g/cc) : 0.419-0.585 at 30% Moisture Content (MC)
Mechanical Strength

Modulus of Elasticity (MPa): 5,760-11,100 at 30% MC
10,400 at 12% MC

Modulus of Rupture (MPa): 33.20-57.20 at 30% MC
67.20 at 12% MC

Uses

The wood of batikuling is primarily used for curving, sculpture and pattern making. It has been widely used for partitioning and ceilings, and easily converted into boards. The demand for wood products derived from batikuling is continuously increasing. Thus, ERDB conducted research and studies in the production of planting materials of the said species through asexual propagation.

Batikuling wood products from Paete, Laguna
Reproduction

One method of asexual reproduction is through micropropagation (tissue culture). Previous research/study was conducted by the ERDB Tissue Culture Laboratory wherein the culture involves extraction of adult tissue to a woody part of batikuling. But it was observed that brown or black pigments exuded from the inoculated explants which later caused death of the cultures.

According to Ms. Janine F. Cortiguerra, currently in-charge of the ERDB Tissue Culture Laboratory, a follow-up research on the tissue culture of batikuling is one of the priorities of the Laboratory since the success of the development of propagation protocol of the species through tissue culture will be of great help to ensure the sustainability of batikuling and to sustain the demand for raw materials in the sculpture industry especially in Paete, Laguna.

Pests and Diseases

The compilers have not found any available information on the pests and diseases. This is due to the limited information and published literatures for this species. However, during the collection of herbarium specimens, presence of shot holes on the leaves of batikuling were observed wherein an insect belonging to the

Presence of shot holes on the leaves of batikuling
Conservation Status

Based on DENR AO 2007-1 the species is considered Endangered due to logging and kaingin making while according to IUCN 2012, the species is considered Vulnerable.

To ensure that the existence of the species will not be compromised, the ERDB should conduct further research on tissue culture and other vegetative propagation methods. Likewise, further study on the propagation of seeds of batikuling is also highly recommended.

Phenology

The species was observed to bear its flower from May to June. The fruit matures from August to September and the collection is from September to October.
The fruits can be collected from the ground or directly from the tree upon maturity; the seed processing involves removal of the fruit carp, pulp and other impurities; the pre-germination treatment is by soaking overnight in a tap water.

In the nursery, the seeds are sown in line in a seed bed; the mixture of top soil and manure (ratio is 10:1) can be used although the percent germination is low, about 3-5%; the germination period is 4-6 months due to dormancy; growth in nursery is very slow with an average height of 1.2 cm in 4 months. It is recommended to have a continuous study on the best soil potting to ensure the high germination of the seeds sown.

During the seedling stage shading is required while partially to fully exposed to sunlight on sapling stage.
References


Rojo J.P. 1999. Revised Lexicon of Philippine Trees. Forest Products Research and Development Institute (FPRDI). Department of Science and Technology (DOST)


Products from Batikuling. Lifted from https://www.google.com.ph/search?q=wood+products+from+batikuling on 07 May 2017

Batikuling. Lifted from http://abpedia.org on 27 April 2017

Batikuling. Lifted from http://www.itto.int/season_google/ on 10 May 2017

Some of the wood products from Paete, Laguna
Some of the wood products from Paete, Laguna
RISE TASK FORCE

Executive Adviser : Henry A. Adornado, PhD
Team Leader : Bighani M. Manipula PhD
Asst. Team Leader : Ms. Veronica O. Sinohin
Members : Ms. Mariche B. Bandibas
For. Kevin Philip M. Olaya
For. Jamella M. De Castro
For. Kristine Marie S. Amatus
Managing Editor : Ms. Marla V. Cambay
Computer Services : Ms. Gliceria B. de Guzman
Layout Artist : Mr. Liberato A. Bacod
Printing : Mr. Celso A. Luna
Photographer : Mr. Gino S. Lafordeza
Circulation : Ms. Marilou C. Villones
Ms. Catalina dM. Aldemita
Mr. Eduardo M. Tolentino