



VIETNAM NATIONAL UNIVERSITY OF FORESTRY (VNUF)
COLLEGE OF FORESTRY BIOTECHNOLOGY (CFB)
Xuân Mai, Chương Mỹ, Hà Nội, Vietnam



**NOTES ON TAXONOMY AND CONSERVATION
OF MAGNOLIACEAE FROM VIETNAM**

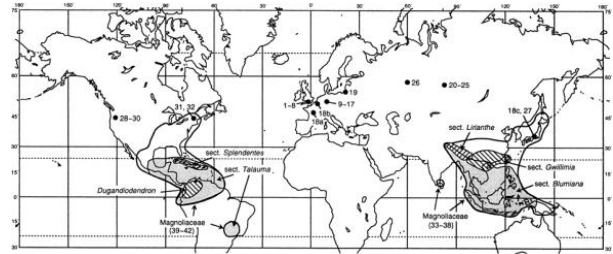
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Varadero, 28-3/Dec/2016

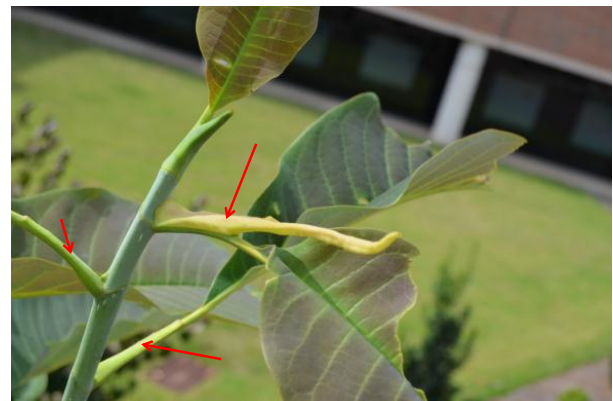
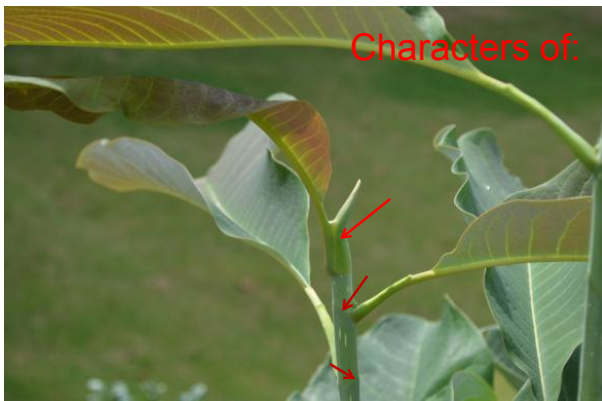






- Magnoliidae: Magnoliales: Magnoliaceae
- 2 (17!) genera: more than 300 species
- Mainly in SE Asia and in Central America, E and S North America, including Mexico and Antilles, and N South America
- Many ornamentals and timbers

- Stipules present => annual scars



Flowers

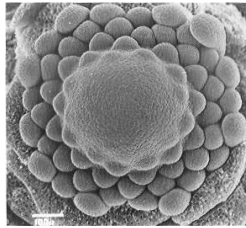
- Inflorescence: solitary
- Flowers: most perfect, flowering bract, 3-merous, actinomorphic.
- Tepals (not sepal and petal).





Gynoecium: many simple carpels spirally arranged on an elongated receptacle (superior).

Androecium: numerous spirally arranged stamens



Gynophore

Stamens: anthers



Extorsely dehiscent

Introrsely dehiscent



Laterally dehiscent



Fruits: aggregate of follicles



Magnolia-type:
spherical, ovoid,
ellipsoid (*Magnolia*,
Manglietia, *Kmeria*,
Parakmeria etc.)



Michelia-
type:
cylindrical

Some irregularly dehiscent
berrylike structure or samaras

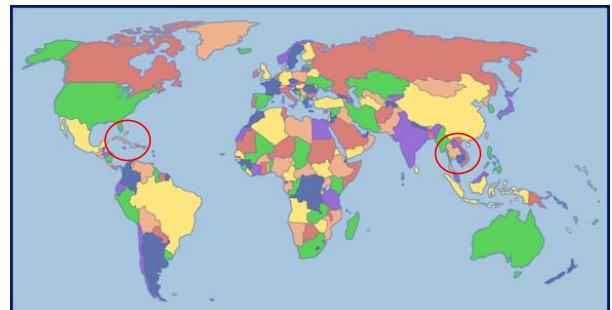


Archaeanthus linnenbergeri
Fossilized specimens dating back over 100 million years are thought to be ancestors of existing Magnolias



one of the earliest groups of the flowering plants in Angiosperms

Taxonomy of Magnoliaceae in Vietnam



- South-East Asia, Indochinese Peninsula
- 331. 698 Km²;
- 90,549,390 in Population;
- 54 Ethnic groups

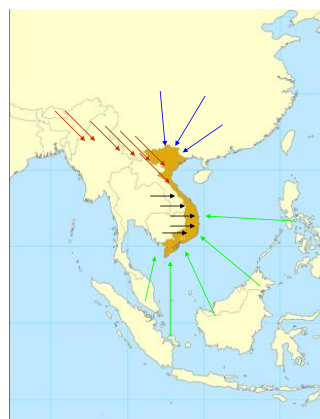
- Northern: 4 different seasons

- Southern: tropical monsoon: dry and rainy, 27.5°C, without winter

- Tropical and temperate zone with a strong monsoon influence
- Sunny days, high rate of rainfall (1, 500 to 2, 000 mm) and humidity (80%)
- t^o/year: 22-27, 3 types of climate area



INTRODUCTION



INTRODUCTION

High Biodiversity: vascular flora of over **15000** species and nearly **2010** genera.

Rich in endemic species with about **10%** of all species and **3%** of genera.

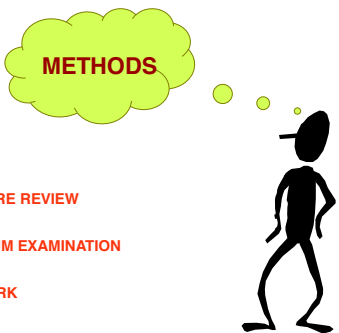


REASONS TO CHOOSE MAGNOLIACEAE FROM VIETNAM

Except Nguyen Tien Ban (2003)'s Checklist and Pham Hoang Ho (1999)

- Menispermaceae
 - Oleaceae
 - Acanthaceae
 - Vitaceae
 - Ericaceae
 - Rutaceae
 - Ephorbiaceae
 - Rubiaceae
 - Poaceae
 - Moraceae
 - Ferns
- (28 families)
- Anonaceae
 - Lamiaceae
 - Cyberaceae
 - Mysinaceae
 - Apocynaceae
 - Verbenaceae
 - Liliaceae
 - Orchidaceae
 - Asteraceae
 - Chlorophyta
 - Polygonaceae
 - Asteraceae
 - Araceae
 - Araceae
 - Malvaceae
 - Lauraceae
 - Gesneriaceae

Need to be studied



- LITERATURE REVIEW
- HERBARIUM EXAMINATION
- FIELD WORK

HERBARIUM VISITED (Vietnam)



- Institute of Ecological and Biological Resources (HN)
- Institute of Tropical Biology (VNM)
- National University (HNU)

- Forestry Inventory and Planning Institute (FIP)
- Vietnam Forestry University (VFU)
- Da Lat University (DLU)
- Cuc Phuong National Park (CPNP)
- Hoang Lien NP (HLNP)
- Agriculture and Forestry University, Hue (AFU)



NOT YET EVALUATED

Taxa		Taxa	
<i>Michelia baillonii</i>		<i>Michelia foveolata</i>	
<i>Michelia braianensis</i>	endemic	<i>Michelia fulva</i>	New record
<i>Alcimandra cathcartii</i>		<i>Manglietia lucida</i>	New record
<i>Magnolia championii</i>		<i>Michelia macclurei</i>	New record
<i>Michelia chapensis</i>		<i>Michelia martinii</i>	
<i>Magnolia clemensorum</i>	endemic	<i>Michelia masticata</i>	
<i>Manglietia chevalieri</i>		<i>Michelia mediocris</i>	
<i>Manglietia conifera</i>		<i>Magnolia poilanei</i>	Problematic
<i>Manglietia dandyi</i>		<i>Pachylarnax praecalva</i>	
<i>Manglietia duclouxii</i>		<i>Manglietia rufibarbata</i>	
<i>Kmeria duperreana</i>		<i>Michelia balansae</i>	
<i>Michelia flaviflora</i>	New record	<i>Magnolia coco</i>	
<i>Michelia floribunda</i>		25 spp.	

IUCN Red List category	Number of species
Extinct	0
Critically Endangered	37
Endangered	84
Vulnerable	26
Data Deficient	97
Near Threatened	13
Least Concern	47
Not Evaluated	10
Total	314



EVALUATED 2016

Taxa, 2007	2016	Taxa, 2007	2016
<i>Michelia baillonii</i>	LC	<i>Michelia foveolata</i>	LC
<i>Michelia braianensis</i>	DD	<i>Michelia fulva</i>	DD
<i>Alcimandra cathcartii</i>	LC	<i>Manglietia lucida</i>	EN B1ab(iii)
<i>Magnolia championii</i>	DD	<i>Michelia macclurei</i>	LC
<i>Michelia chapensis</i>	LC	<i>Michelia martinii</i>	LC
<i>Magnolia clemensorum</i>	DD	<i>Michelia masticata</i>	DD
<i>Manglietia chevalieri</i>	DD	<i>Michelia mediocris</i>	LC
<i>Manglietia conifera</i>	LC	<i>Magnolia poilanei</i>	
<i>Manglietia dandyi</i>	LC	<i>Pachylarnax praecalva</i>	DD
<i>Manglietia duclouxii</i>	DD	<i>Manglietia rufibarbata</i>	EN B2ab(iii)
<i>Kmeria duperreana</i>	DD	<i>Michelia balansae</i>	DD
<i>Michelia flaviflora</i>	NT	<i>Magnolia coco</i>	DD
<i>Michelia floribunda</i>	DD	25 spp.	


Changed between 2007 and 2016 (endemic)

Taxa	2007	2016
<i>Liriodendron chinense</i>	NT	NT
<i>Magnolia (Michelia) aenea</i>	EN B1ab(i,ii,iii)+B2ab(i,ii,iii)+C 2a(i)	LC (M. foveolata)
<i>Magnolia albosericca</i>	VU B1ab(i,ii,iii)+B2ab(i,ii,iii)+D 1	VU D1+2
<i>Magnolia annamensis</i>	NT	VU B1ab(iii,v)
<i>Magnolia (Manglietia) blaoensis</i>	VU B1ab(i,iii)	VU B1ab(iii,iv)
<i>Magnolia (Manglietia) fordiana</i> var. <i>forrestii</i>	NT	LC
<i>Magnolia (Manglietia) hebercarpa</i>	CR B2ab(i,ii,iii)	M. Ventii EN B1ab(iii);D
<i>Magnolia (Michelia) hypolampra</i>	VU C1	DD???
<i>Magnolia (Michelia) lacei</i>	CR D	EN D

Taxa	2007	2016
<i>Magnolia (Michelia) mannii</i>	VU B1ab(i,iii)	VU B1ab(i,iii)
<i>Magnolia nana</i>	EN B1ab(i,iii)	EN B1ab(i,iii)
<i>Magnolia (Michelia) odora</i>	VU B1ab(i,ii,iii)+B2ab(i,ii,iii)+C 2a(i)	VU C1
<i>Magnolia (Manglietia) phuthoensis</i>	EN B1ab(i,iii)	Taxonomic problem
<i>Magnolia (Michelia) subulifera</i>	VU b1ab(i,iii)	M. mediocris
<i>Magnolia (Manglietia) insignis</i>	LC	
15 spp.		

**15 species selected here
for conservation**

Magnolia cattienensis Q.N. Vu & N.H. Xia, sp. nov. (NOVON)



Noodle Journal of Botany 186: 461-462, 2014
doi: 10.1111/njb.12141
© 2014 The Authors. Journal of Botany © 2014 British Ecological Society, 13 March 2014

Magnolia cattienensis sp. nov. (Magnoliaceae) from Vietnam

Vu Quang Nam
V. Q. Nam (corresponding author), Dept. of Forest Plant Resources, College of Forest Biotechnology, Vietnam Forestry Univ., Xuan Mai, Hanoi, Vietnam

A new species of the family Magnoliaceae, *Magnolia cattienensis* (Q. N. Vu) from Cát Tiên National Park, in the Lâm Đông Province, north of Vietnam is described and illustrated. *Magnolia cattienensis* is most closely related to *M. zeyheri* D.Don, but differs by normally carinate and gradually attenuate bases of the leaves (to broadly cuneate, not attenuate), pinnate pedicels (to glabrous), and other pedicels (to glabrous), pubescent procarps (to glabrous), and fewer mature carpels (18–20 to 45–90) with dense trichomes (to glabrous).

EN

Michelia tonkinensis A.Chev.?



Tropicos+
Home Search in Tropicos Database (Jaq, DC) Search
Close Project + Profile
ST, ME, etc.

Michelia balansae (Aug. DC.) Dandy
Balansae (2) | Balansae (2) | Balansae (2) | Balansae (2) | Balansae (2)

- Michelia balansae Aug. DC.
- [2] Flora of China Editorial Committee, 2008. Fl. China 7: 1-499. Science Press & Missouri Botanical Garden Press, Beijing & St. Louis.
- Michelia balansae var. appressipubescentia Y.W. Lau
- [2] Flora of China Editorial Committee, 2008. Fl. China 7: 1-499. Science Press & Missouri Botanical Garden Press, Beijing & St. Louis.
- Michelia balansae var. appressipubescentia Y.W. Lau
- [2] Flora of China Editorial Committee, 2008. Fl. China 7: 1-499. Science Press & Missouri Botanical Garden Press, Beijing & St. Louis.
- Michelia tonkinensis Finet & Gagnep.
- [2] Flora of China Editorial Committee, 2008. Fl. China 7: 1-499. Science Press & Missouri Botanical Garden Press, Beijing & St. Louis.
- Michelia tonkinensis A. Chev.
- [2] Flora of China Editorial Committee, 2008. Fl. China 7: 1-499. Science Press & Missouri Botanical Garden Press, Beijing & St. Louis.

NOTES ON MAGNOLIACEAE
III: THE MAGNOLIACEAE
OF CHINA¹

Chen Bao Liang[†] and
Hans P. Nooteboom^{*}

27. *Michelia balansae* (A. DC.) Dandy, Kew Bull. 1927: 263. 1927. *Magnolia balansae*

Volume 80, Number 4 1993
Chen & Nooteboom
Magnoliaceae of China 1079

A. DC., Bull. Herb. Boissier 4: 294. 1904. *Michelia baviensis* Finet & Gagnep., Bull. Soc. Bot. France (Mémoires) 4: 44, t. 5B. 1905. TYPE: *Balansa 3886* (holotype, P; isotype, E).

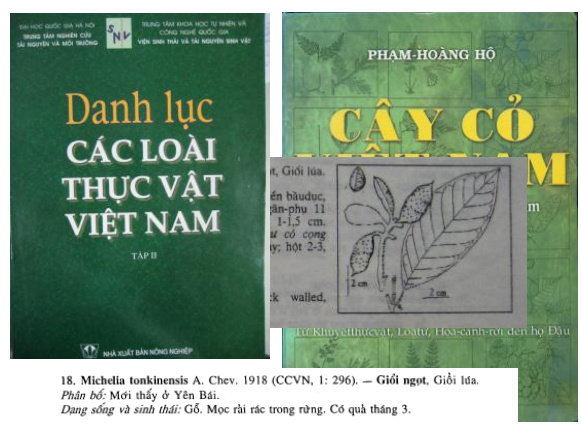
Michelia tonkinensis A. Chev. ex Gagnep. in Humbert, Fl. Indo-Chine Suppl. 44. 1938. TYPE: No specimen has been preserved in Chevalier's herbarium.

Michelia balansae var. *appressipubescentia* Lau, Bull. Bot. Res. (China) 5, 3: 124. 1985. TYPE: S. P. Kao 52279 (holotype, IBSC; isotypes, A, BM, K, NY).

Michelia balansae var. *brevipes* B. L. Chen, Acta Sci. Nat. Univ. Sunyatseni (Guangzhou) 1: 112. 1988. TYPE: B. L. Chen & C. N. Mai 871034 (SYS).

Distribution. China and Vietnam. In CHINA. Southern Fujian: Guangdong, Kung Ping Shan, *Tsang W.T. 26866*; Yaichow, *Hsu F.C. & N.K. Chun 70147*. Guangxi: Fang Cheng dist., *Tsang W.T. 26866*; Jingxi, *Ko S.F. 55702*; Shiwandaban, *Tso C.L. 23510*; Yangshou, *Qin H.F. 53*; Nanning, *Liang C.F. 34214*. Hainan: Boting, *Lau S.K. 27946*; Jianfong, *Chang H.T. 6081*; Leihai, *Hsu F.C. 73242*; Lin Ya Shan, *Lau Ko Distr., Tsang W.T. (LU 15822) 323*; Langshui, *Tso C.L. 43749*. Yunnan: Funing, *Fang C.W. 89653*; Malipo, *86545*; Feng K.M. 13599; Ping pien haien, *Tsai H.T. 61621*.

Ecology. In evergreen broad-leaved forest, in shaded and mixed forests, along stream side, on moist sandy soil. Altitude: 350–1,000 m. Flow-

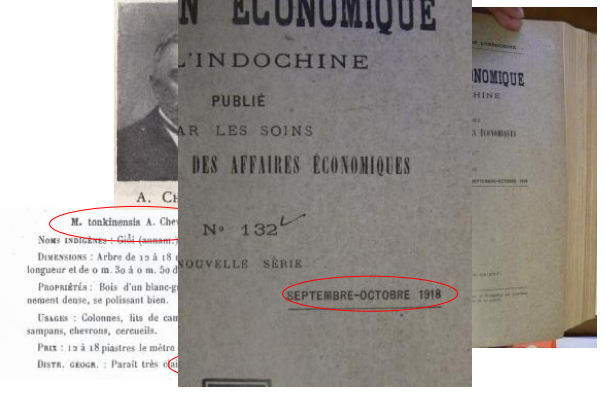


Danh lục các loài thực vật Việt Nam
TẬP II
HÀ NỘI: NHÀ XUẤT BẢN KHOA HỌC

CÂY CỎ
Phạm-Hoàng Hộ
Giới lúa, 1-1,5 cm, M có công ty, hạt 2-3, k walled.

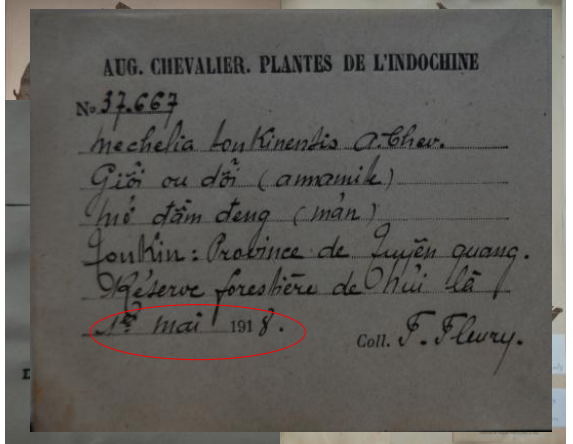
18. *Michelia tonkinensis* A. Chev. 1918 (CCVN, 1: 296). — Giới ngọ, Giới lúa.
Phần bộ: Mối thấy ở Yên Bái.
Dạng sống và sinh thái: Gỗ. Mọc rải rác trong rừng. Có quả tháng 3.

M. tonkinensis Chevalier, Bulletin Economique (de l'Indochine) 21: 792. 1918.



BULLETIN ECONOMIQUE
DE L'INDOCHINE
PUBLIÉ
PAR LES SOINS
DES AFFAIRES ÉCONOMIQUES
N° 132
NOUVELLE SÉRIE
SEPTEMBRE-OCTOBRE 1918

M. tonkinensis A. Chev.
Noms indochinois: Cây ngọ, Cây cỏ.
DIMENSIONS: Arbre de 12 à 18 m de longueur et de 0 m. 30 à 0 m. 50 de diamètre.
PROPRIÉTÉS: Bois d'un blanc jaunâtre, nœuds denses, se polissant bien.
USAGES: Colonnes, lits de canotiers, chevrons, cercueils.
PRIX: 12 à 18 piastres le mètre.
DISTR. GÉOGR.: Paraît très commun.



AUG. CHEVALIER. PLANTES DE L'INDOCHINE
N° 37.667
Michelia tonkinensis A. Chev.
Giới ngọ (amamik)
Giới dâm dưng (màn)
Tonkin: Province de Quỳn Quang.
Réserve forestière de Khùì Hả
19 mai 1918.
Coll. F. Flury.



Michelia tonkinensis A. Chev.: Fruit and drawing



A. *Michelia tonkinensis* A. Chev. Vietnam, Tuyen Quang Province, Reserve Forestiere de hui la, 1/5/1918, Fleury 37.667 (P) (type); B. *M. balansae* (Aug. DC.) Dandy. Vietnam, Tuyen Quang Province, 6/1925, leg. 3.548 (barcode: P00205096) (P).

- *Michelia tonkinensis* A. Chev. in Bull. Econ. Indochine 21: 792. 1918; H. H. Pham, Ill. Fl. VIE. 1: 296. 1991. Ill. Fl. VIE. 1: 241. 1999^[12]; T. B. Nguyen in Checklist Pl. Sp. VIE. 2: 15. 2003^[13]. TYPE: Vietnam, Tuyen Quang Prov., Reserve Forestiere de hui la, 1 May 1918, Fleury 37.667 (P).
- *Michelia gioi* (A. Chev.) Sima & Hong Yu, Seed Pl. Honghe Reg. SE Yunnan. 55. 2003^[2]; Xia et al. in Fl. China 7: 89. 2008; Q. N. Vu in Vietnam J. For. Sci. 1: 826. 2009. -- *Talauma gioi* A. Chev. in Bull. Econ. Indochine, 21: 790. 1918. TYPE: Service forestier 38204 (HT: P!). [*gioi*].
- *Michelia hypolampra* Dandy in J. Bot. 66: 321. 1928; Gagnep. in H. Humbert, Suppl. Fl. Indo-Ch. 1: 51. 1938; H. H. Pham, Ill. Fl. VIE. 1: 294. 1991. Ill. Fl. VIE. 1: 239. 1999. T. B. Nguyen in Checklist Pl. Sp. VIE. 2: 13. 2003^[11]. -- *Magnolia hypolampra* (Dandy) Figlar in Proc. Internat. Fam. Magnoliaceae: 22. 2000. TYPE: Vietnam. 8 May 1914, Fleury in Chevalier 30158 (HT: P!; IT: K!).
- *Michelia hedyosperma* Y. W. Law in Bull. Bot. Res. 5(3): 123. 1985; Law in Fl. Reip. Pop. Sin. 30(1): 173. 1996; Law et al., Magn. China: 274. 2004. TYPE: China. Guangxi, Longzhou, Daqingshan, L. Z. Jia & X. L. Feng 6054 (HT: IBSC!).
- Vern.: Gioi an hat, gioi Annam, gioi so pai (Gia Lai)

Michelia tonkinensis A. Chev.

- Date of publication: Sep. – Nov. 1918
- Date of collection with number 37.667 is 1 May 1918 (*M. tonkinensis*)
- Date of collection with number 3.548 is June 1925 (*M. balansae*)
- Both were named as *M. tonkinensis*
- Both were collected in Tuyen Quang Province

热带亚热带植物学报 2011,19(6): 549–553
Journal of Tropical and Subtropical Botany

越南植物 *Michelia tonkinensis* (木兰科) 的模式考订

武光南^{1,2,3}, 夏念和¹

(1. 中国科学院华南植物园, 中国科学院植物资源保护与可持续利用重点实验室, 广州 510650; 2. 中国科学院研究生院, 北京 100049; 3. 越南林业大学, 河内)

摘要: *Michelia tonkinensis* A. Chev. 这个名称在发表时未指定模式, 曾被处理为 *M. balansae* (Aug. DC.) Dandy 的异名。在查阅了其原白和原始材料后, 确认来自越南北部 Tuyen Quang 省的标本——Fleury 37.667 (P) 是该种唯一的原始材料, 应该作为模式看待, 同时确认 *Michelia tonkinensis* 是一独立的种, 不应该处理为 *M. balansae* 的异名。此外, 还提供了 *M. tonkinensis* 的异名、俗名、描述、分布及查阅的标本等综合信息。

关键词: 模式; 木兰科; 含笑属; *Michelia tonkinensis*; 越南

中图分类号: Q949.747.1

文献标识码: A

文章编号: 1005-3395(2011)06-0549-05

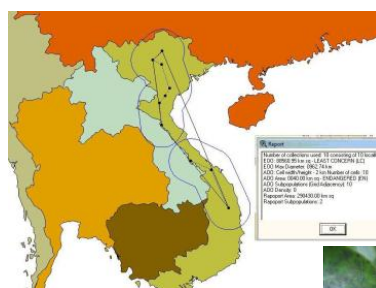
doi: 10.3969/j.issn.1005-3395.2011.06.010

Notes on the Type of *Michelia tonkinensis* (Magnoliaceae) from Vietnam

WU Guangnan^{1,2,3}, XIA Nian-he¹

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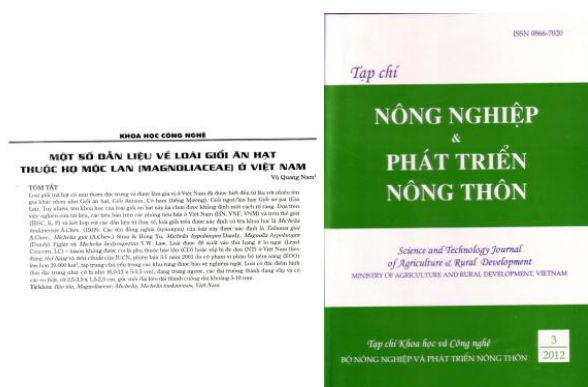




- EOO có diện tích là 88.560,95 km² - Least Concern (LC), AOO có diện tích là 40 km² Endangered (EN) (trong đó cạnh của ô là 2 km, số ô là 10).

Extent of Occurrence (EOO)
Area of Occupancy (AOO)

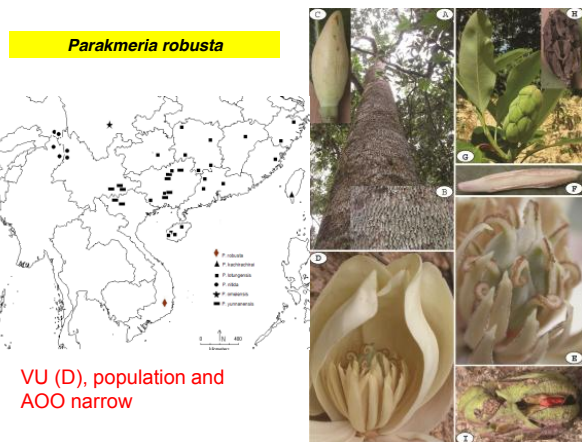
- ít lo ngại
- (Least Concern, LC)



Michelia flaviflora Y.W. Law & Y.F. Wu

- Evergreen broad-leaved forest, at 1200-1500 m alt.
- VIETNAM. **Son La:** (Thuần Châu, KBTN Cogia), **Lao Cai:** Sapa, (Den Than, San Sa Ho, Cat Cat)
- China (Yunnan)

EN (AOO<500 km²/VU



VU (D), population and AOO narrow

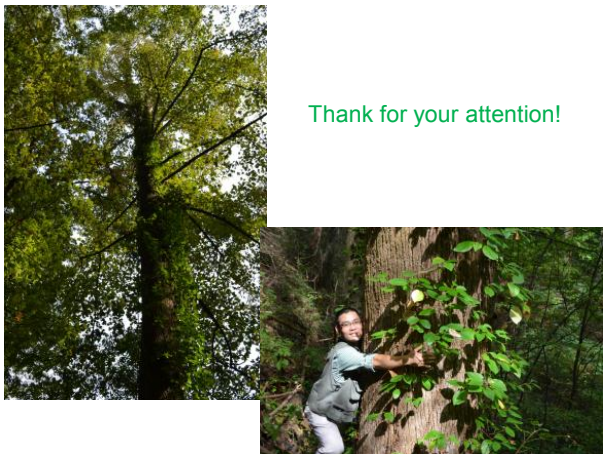
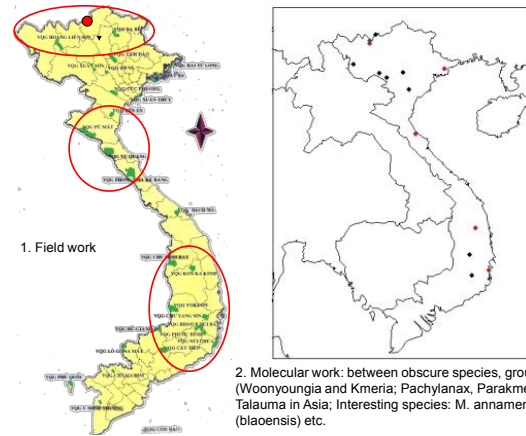
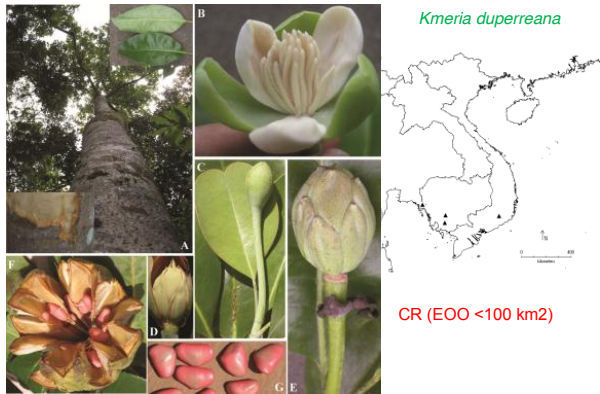


Michelia braianensis

Gia Lai: Chu ba, 1/3/1980, Phan Ke Loc P 4050 (HNU).
Lam Dong: Djiling, 22/2/1935, Poilane 24508 (P, VNM).

EN (EOO < 5000 km²), <250 individuals

CR



Thank for your attention!