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New and interesting Magnoliaceae records from Peninsular Thailand

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ABSTRACT. *Magnolia koordersiana* (Noot.) Figlar is recorded for the first time in Thailand. The species is described and illustrated. Previously unknown populations of the two rare species *Magnolia elegans* (Blume) H.Keng and *Magnolia praecalva* (Dandy) Figlar & Noot. are also recorded.

INTRODUCTION

The account of Magnoliaceae for the Flora of Thailand (Keng, 1975) includes four genera and five species from Peninsular Thailand. In addition, *Pachylarnax praecalva* Dandy was recently reported from Songkhla province (Sawangchote et al. 1999). All of these six species have now been reduced to the single genus *Magnolia*, and three of them (*Magnolia craibiana* Dandy, *Talauma betongensis* Craib and *T. candollei* Blume) have been reduced to *Magnolia liliifera* (L.) Baill. (Frodin & Govaerts 1996, Figlar & Nooteboom 2004). Two of the four species currently recognised for Peninsular Thailand, *Magnolia champaca* (L.) Baill. ex Pierre and *M. liliifera* (L.) Baill., are widespread and rather common. The other two species, *M. elegans* (Blume) H.Keng and *M. praecalva* (Dandy) Figlar & Noot. are very rare and currently only known from a single locality each. During the course of fieldwork for the preparation of a field guide to trees of Peninsular Thailand, previously unknown populations of *Magnolia elegans* and *Magnolia praecalva* have been discovered, as well as the previously unrecorded species *Magnolia koordersiana* (Noot.) Figlar. The presence of all three species growing in close proximity at Ton Bariwat Wildlife Sanctuary, Phangnga province, is remarkable. Magnoliaceae are often considered good indicators of primary forest, which would suggest that the forest in this sanctuary is in exceptionally good condition with high conservation value.

Magnolia koordersiana (Noot.) Figlar, Blumea 49: 96. 2004.—*Michelia koordersiana* Noot., Blumea 31: 111, fig. 10. 1985. Figs 1.

Tree to 32 m high and 64 cm diam. Crown dense, rather narrow with ascending main branches. Bole columnar, slightly spreading at base. Bark pale grey, smooth or finely cracked; inner bark dull yellow quickly darkening on exposure to air, slightly aromatic (reminiscent of green mango). Twigs finely adpressed-puberulous when young, soon glabrescent, longitudinally ridged when dry. Stipules 10–15 mm, not adnate to petiole, soon deciduous. Leaves elliptic or obovate, 6.5–23.0 by 2.8–9.2 cm; apex broadly acute to

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shortly acuminate, acumen often obliquely folded especially when dry; base cuneate, often narrowly decurrent on the petiole; 7–11 pairs of secondary nerves plus a few shorter intermediate ones, meeting in a looped intramarginal vein, together with the fine reticulation prominent on both surfaces; mature leaves glabrous, darkish-green above, grey-green below, withering yellow; petiole 10–25 mm, slightly swollen at base. Flowers axillary, bisexual, pale yellow. Mature buds 10–20 mm long, finely adpressed-pubescent. Brachyblast 9–15 mm long, minutely pubescent, sometimes sparsely so, with 2 nodes; lowermost internode 3–6 mm long, uppermost 6–9 mm long. Outer tepals 3, in single whorl, 14–19 by 2–3 mm, strongly recurved in older flowers; inner tepals 6, in 2 whorls, to ca 25 by 4 mm. Stamens yellow or pale brown, 5–7 mm long. Carpels ca 10, minutely but often densely pubescent; gynophore 4–7 mm long, pubescent as carpels. Fruiting carpels 2–9, 12–22 by 9–12 mm, woody, dark brown with circular pale brown lenticels ca 2 mm diam.; the acicular-falcate midrib tardily separate or not. Fruiting peduncle up to 45 mm long, stout, often swollen near the mid-point with obvious annular scar at junction of 2 nodes. Seeds 1–2, 7–8 by 8–10 mm, aril bright red when ripe.

Thailand.— PENINSULAR: Chumphon (Nam Tok Ngao National Park), Phangnga (Sri Phangnga National Park & Ton Bariwat Wildlife Sanctuary), Songkhla (Khao Nam Khang National Park).

Distribution.— Peninsular Malaysia (Selangor, 1 collection); Sumatra (6 collections).

Ecology.— Primary evergreen forest, usually in well-drained areas along ridges or on sloping ground, 130–650 m. Flowering Nov.–Feb.; fruiting April.

Notes.— Readily distinguished from all other Magnoliaceae in Peninsular Thailand by the combination of axillary flowers and petioles without stipular scar. *Magnolia koordersiana* is scattered over a wide area in Peninsular Thailand from 6°35' to 9°51' latitude but is never common. We have seen a total of six mature trees with flowers or fruit, never more than two in a single locality. The lack of a stipule scar on the petiole can easily lead to confusion with other families, particularly Lauraceae, in the absence of flowers or fruit. Flowering trees range in size from 24–33 m with a dense crown and relatively few flowers open simultaneously, making this species difficult to spot in the forest. This may explain why there are no previous collections from Thailand despite the wide distribution and long flowering period.

Magnolia elegans (Blume) H.Keng, Gard. Bull. Singapore 31(2):129. 1978.— *Aromadendron elegans* Blume, Bijdr.:8. 1825.

This species was recorded from a single locality in the Flora of Thailand treatment; Thung Song in Nakhon Si Thammarat, where two large trees are known (Chalermglin, pers. comm.). No other localities have been reported since then. Two more trees were discovered by our project team in Ton Bariwat Wildlife Sanctuary, Phangnga province. The trees are both over 30 m tall, growing ca 1 km apart in partially logged evergreen forest at 500–550 m elevation. Flowers and mature fruits were observed on both trees.

Magnolia praecalva (Dandy) Figlar & Noot., Blumea 49(1):95. 2004.— *Pachylarnax praecalva* Dandy, Bull. Misc. Inform. Kew. 1927: 260. 1927.

This species was first reported from Thailand in 1999 (Sawangchote et al., 1999) based on a single collecting locality in Songkhla province. No other localities have been reported since then. Our project team recently discovered further populations in Taleban National Park, Satun province and Ton Bariwat Wildlife Sanctuary, Phangnga province. In Taleban, five mature trees 25–32 m tall were observed growing within a few hundred metres of each other in undisturbed evergreen forest at 550–600 m elevation. The largest trees were in flower in January 2006 and had produced fruit the previous year. In Ton Bariwat, one immature tree 8 m tall and two mature trees 28–30 m tall were observed growing ca 2 km apart in partially logged and undisturbed evergreen forest at 500–650 m elevation. The largest tree was producing both flower and mature fruit in April 2006.

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Figure 1. *Magnolia koordersiana* (Noot.) Figlar: A. young and old flowers; B. mature flower; C. infructescence. A-B. *Gardner et al.* ST0961; C. *Gardner & Khumchompoo* ST 1921. Photographed by S. Gardner.