Three New Records of *Premna* L. (Lamiaceae) for Thailand

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**ABSTRACT.**—Three species of the genus *Premna*, *P. punctulata* C.B. Clarke, *P. rabakensis* Moldenke and *P. stenobotrys* Merr., are newly recorded for Thailand. Descriptions and illustrations are provided.

**KEY WORDS:** *Premna*, Lamiaceae, new records, Thailand

**INTRODUCTION**

The genus *Premna* L. belonging to the family Lamiaceae was established by Linnaeus (1771) based on *P. serratifolia*. The genus now contains about 200 species worldwide which are mainly distributed in tropical and subtropical Asia, Africa, Australia and the Pacific Islands (Harley et al., 2004). A preliminary study of the genus in Thailand was first undertaken by Fletcher (1938), enumerating 30 species. Later Moldenke (1980) and the Forest Herbarium (2001) listed 39 and 19 taxa, respectively.

In the process of revising the genus *Premna* for the Flora of Thailand, the following three new records for Thailand, *Premna punctulata* C.B. Clarke, *P. rabakensis* Moldenke and *P. stenobotrys* Merr., were discovered, which are here described and illustrated.

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**FIGURE 1.** *Premna punctulata*: A. flowering branch; B. abaxial surface of leaf with pubescent hairs at nerve axis; C. flower; D. calyx; E. vertical cut of corolla. [C. Leeratiwong 05-243 (KKU)]. Drawn by J. Thangthong.
Holmgren and Holmgren, 1998). Morphological, ecological and distributional data were also studied.

SYSTEMATICS

Premna punctulata C.B. Clarke
Figures 1 and 3


Woody climber; stem brownish grey to grey, obtusely 4-angled with few lenticels, glabrescent. Leaves simple, opposite-decussate, ovate, elliptic-ovate or broadly elliptic, chartaceous to subcoriaceous, 9–15 x 5–9 cm, apex acuminate or acute, rarely retuse, base rounded or slightly oblique, margin entire; adaxial surface glabrous, midrib sunken, sparsely pubescent; abaxial surface glabrous except with pubescent hairs on the axis of midrib, with moderately brown glands, midrib prominent, moderately pubescent, secondary veins 4–6-paired, curved and jointed near margin, conspicuously on both surfaces of leaves, glabrous to sparsely pubescent, tertiary veins reticulate, distinct on both surfaces; petiole 3–6 cm long, slightly slender, slightly angled, furrowed on upper part, glabrous. Inflorescence a terminal corymbose thryse, 6–10 cm long; peduncle green, 4-angled, slightly thick, 3–5 cm long, sparsely pubescent and brown glandular; pedicels 0.5–1.5 mm long, thick, covered with sparsely pubescent hairs and with densely yellow glands; bracts linear to linear-lanceolate, 1–8 mm long, deciduous, densely pubescent; bracteoles linear, 0.5–1.5 mm long, pubescent. Calyx pale green to green, cup-shaped, 1.5–2 mm long, obscurly 2-lipped, outside slightly brownish pubescent, moderately brownish glandular, inside covered with sparsely short brownish hairs and brown glands; tube 1.5–2 mm long, posterior lip subentire; anterior lip 2-lobed, 0.1–0.15 by 0.2–0.3 mm, triangular ovate, apex obtuse. Corolla greenish-white or white, with yellow patch at the inside base of the middle lobe of lower lip, 2-lipped, 5–6 mm long; tube 2.7–3.5 mm long, swollen, outside mostly glabrous or sparsely pubescent at upper part, inside slightly densely white villous along middle to upper parts; corolla lobes outside and inside glabrous; posterior lip 1-lobed, ovate or obovate, 1.5–1.7 by 1.8–2 mm, apex deeply retuse, separated more than a half of lobe; anterior lip 3-lobed, middle lobe obovate, 1.8–2 by 1.8–2 mm, apex obtuse or shallowly retuse, lateral lobes broadly obl ong to oblong-ovate, 1.5–1.7 by 1.2–1.5 mm, apex obtuse. Stamens 4, didynamous, filaments slightly slender, exserted, long filaments 2.2–3 mm long, short filaments 2–2.5 cm long; anthers ovate, 0.4–0.5 mm long. Ovary superior, ovoid, 0.5–1 mm long, sparsely pubescent hairs at the apex; style slightly slender, 3.5–4 mm long; stigma 0.15–0.3 mm long. Fruits unknown.
Distribution.- Malaysia (Malacca).

Ecology.- In the edge of primary evergreen forest; alt. ca. 150 m; flowering March to May.

Note.- *Premna punctulata* in Thailand is different from Malaysian material in having sparsely pubescent hairs on the apex of ovary (glabrous in Malaysia). Formerly known only from Malaysia but now known
to occur in southern Thailand in the Phaththaluang and Narathiwat provinces.

*Premna rabakensis* Moldenke
Figures 2 and 4


Tree 6–30 m high, stem greyish-brown or light brown, obtusely 4-angled with large lenticels, glabrescent. **Leaves** simple, opposite-decussate, ovate, cordate-ovate or elliptic-ovate, chartaceous, 10–20 by 5–15 cm, apex acuminate or caudate, base cuneate, slightly cordate or rarely oblique, margin entire sometimes slightly serrate; adaxial surface densely to moderately brown pubescent, with sparse, brown or brownish-red glands, midrib flat, more densely pubescent and glandular than leaf surface; abaxial surface moderately to densely greyish-brown to pale brown pubescent or villous, with dense, reddish-brown or brown glands, midrib prominent, densely villose and glandular, secondary veins 6–8-paired, curved and jointed near margin, prominent on both surfaces, densely pubescent and glandular than leaf surface; petiole 3–10 cm long, slightly thickened, cylindrical, furrowed on upper part, densely pubescent and glandular. **Inflorescence** a terminal corymbose thyrse, 7–20 cm long, moderately to densely pubescent and glandular; peduncle green to brownish green, obtusely 4-angled, thickened, 2–7 cm long, densely dark brownish to brownish pubescent, with moderately glands; pedicels thick to slender, 0.2–2.5 mm long, covered with moderately to sparsely pubescent hairs, with dense, reddish-brown to brown glands; bracts linear or ovate, 5–25 mm long, densely pubescent or glandular; bracteoles linear, 1–10 mm long, pubescent. **Calyx** yellowish-green to green, united, cup-shaped, obscurely 2-lipped, 1–1.5 mm long, outside moderately to sparsely pale brownish pubescent and brownish glandular, inside glabrous with few brownish glands; tube 0.9–1.4 mm long; posterior lip subentire or 2-lobed, 0.1–0.2 by 0.3–0.5 mm, triangular-ovate or ovate, apex rounded; anterior lip entire. **Corolla** greenish-white to white, 2-lipped, 3–4 mm long; tube 2–3 mm long, slightly thick, outside glabrous at middle to lower part, sparsely pubescent at the top, inside densely long white pubescent along the middle to apex; corolla lobes outside moderately to sparsely pubescent, inside glabrous; posterior lip 1-lobed, ovate to broadly oblong-ovate, 1.2–1.5 by 1–1.5 mm, apex mostly deep retuse, rarely shallowly retuse or obtuse; anterior lip 3-lobed, middle lobe ovate or broadly oblong 1.2–1.5 by 0.5–0.8 mm, apex rounded or obtuse, lateral lobe ovate to oblong-ovate, 1–1.3 by 0.5–0.8 mm, apex obtuse. **Stamens** 4, didynamous, white, filaments slightly slender, exserted, long filaments 1.8–2.5 mm long, short filaments 1.5–2 mm long; anther ovate, 0.3–0.5 mm long. **Ovary** superior, ovoid, 0.3–0.8 mm long, glabrous with sparse to moderate glands spreading at apex; style slightly slender, 2–4 mm long; stigma 0.2–0.3 mm long. **Fruits** drupe, ovoid to subglobose, 3–7 mm long with several glands, young fruit green, ripening fruit black, persistent calyx 1–1.5 mm long; fruit stalk 0.5–3 mm long.

**Figure 4. Premna rabakensis:** A. habit; B. flowering branch; C. bark; D. flowers; E. fruits. Photographed by C. Leeratiwong.

**Distribution.**- Laos and Cambodia.

**Ecology.**- In disturbed, open and streamsides in secondary to evergreen, dry evergreen, mixed deciduous and dipterocarp forests, rarely on limestone, hill evergreen and swamp forests; alt. 100–1200 m. Flowering January to May. Fruiting June to September.

**Note.**- Most material of *P. rabakensis* in Thailand was previously identified as *P. villosa*, a synonym of *P. coriacea* var. *villosa*. *P. rabakensis* is different from *P. coriacea* var. *villosa* in having a tree habit and by the presence of reddish-brown glands mixed with yellow or brown glands on both surfaces of leaves, but *P. coriacea* var. *villosa* is a scendent shrub or woody climber and has only yellow glands on both surfaces of leaves. *P. rabakensis* is variable in the indumentum characteristic which is found densely pubescent to subglabrous on the abaxial surface of leaves.

**Premna stenobotrys** Merr.


Woody climber or scandent shrub; stem brown, obtusely 4-angled or terete with large lenticels, glabrous. Leaves simple, opposite-decussate, cordate-ovate, ovate or elliptic-ovate, chartaceous, 8–11 by 4–6 cm, apex caudate or acuminate, base cordate or oblique-cordate, margin entire; adaxial surface glabrous except with ciliate hairs at margin, midrib, slightly raised, covered with sparse, pubescent hairs; abaxial surface glabrous, with sparse, yellowish-brown to brown glands, midrib prominent, glabrous, secondary veins 4–8-paired, curved and jointed near margin, prominent on both surfaces, glabrous, tertiary veins reticulate, more distinct on the abaxial surface; petiole 4-angled, slender, 1.5–5 cm long, deeply furrowed on upper part, glabrous or sparsely brown pubescent. Inflorescence a terminal, mostly pyramidal-shaped or rarely corymbous thyrrse, (2.5–) 4.5–10 cm long; peduncle green, obtusely 4-angled, thickened, 1–2 cm long, moderately to
densely brown pubescent or glandular; pedicels thickened, 0.5–2 mm long, moderately brown pubescent or glandular; bracts falcate-linear to lanceolate-linear, 0.5–7 mm long, deciduous, moderately pubescent; bracteoles linear or lanceolate-linear, 0.2–2.5 mm long, pubescent. Calyx green, united, bell-shaped, (2.2–) 3–3.5 mm long, 2-lipped, outside sparsely brownish pubescent, covered with moderate-
ly brown glands, inside moderately pubescent; tube 2–2.5 mm long; posterior lip subentire or with minutely 3 lobes, triangular-ovate, apex obtuse, 0.05–0.15 by 0.2–0.5 mm; anterior lip minutely 2-lobed, triangular-ovate, 0.1–0.5 by 0.2–0.5 mm, apex acute. Corolla red, 2-lipped, (4–) 4.5–7 mm long; tube broadly cylindrical, 2.5–5 mm long, outside glabrous, inside with moderately white villose hairs along the middle to upper parts; corolla lobes outside glabrous on upper lip or with slightly pubescent hairs at the base of middle lobe of lower lip, inside glabrous except with moderately villose hairs on the base of middle lobe of lower lip; posterior lip 1-lobed, broadly oblong-obovate, obovate, (2–) 2.5–3 by (1.5–) 2.8–3 mm, concave, apex obtuse; anterior lip 3-lobed, middle lobe rounded or obovate, (1–) 1.8–2.5 by (1.2–) 2–2.5 mm, concave, apex obtuse, lateral lobes broadly oblong-ovate or obovate, (0.8–) 1.5–1.8 by (1.2–) 1.8–2 mm, apex obtuse. Stamens 4, didynamous, filaments reddish-white, slightly slender, included, long filaments (1.5–) 2.5–3.5 mm long, short filaments 1–3 mm long; anther brown, cordate-ovate, 0.3–0.5 mm long. Ovary superior, obovoid, (0.6–) 0.8–1.5 mm long, glabrous or with sparse, pubescent hairs near the apex; style white or whitish-red, slightly slender, 3.5–4.5 mm long; stigma (0.05–) 0.2–0.5 mm long. Fruits drupe, obovoid or obovoid-ellipsoid, 6–8 mm long, sparsely to moderately glandular; persistent calyx enlarged, 2–3.5 mm long; fruit stalk 1.5–3 mm long.


**Distribution.**- Vietnam

**Ecology.**- At the edge of evergreen forest; alt. 350–700 m; flowering June to December; fruiting October to February.

**Note.**- *Premna stenobotrys* is readily distinguished from all other members of its genus in Thailand by the presence of a red corolla. Merrill (1940) described this species from Vietnam and reported that it has a glabrous ovary but, in contrast, the Thai specimens examined all have sparse hairs on the apex of ovary.

**ACKNOWLEDGEMENTS**

We would like to thank the Royal Golden Jubilee Program (RGJ: grant No. 4.B.KK/46/B.1) and Commission on Higher Education, Ministry of Education, Thailand for financial support. We are very grateful to the curators and staff of the following herbaria: AAU, BCU, BK, BKF, BM, CMU, HUH, K, KKU, NY, P, PSU, QBG, SING, TCD, TEX, US and Herb. Biology, Chiang Mai University for loans of specimens, information and their assistance during visits to their institutions. We also thank the Applied Taxonomic Research Center, Department of Biology, Faculty of Science, Khon Kaen University for its facility and Mr. Jakkaphong Thangthong for line drawings.
LITERATURE CITED


Received: 23 March 2007
Accepted: 29 February 2008