

泰国茜草科粗叶木属植物的分类学研究^{* *}

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A taxonomic revision of the genus *Lasianthus* Jack. (Rubiaceae) from Thailand

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Abstract A taxonomic revision of the genus *Lasianthus* Jack. from Thailand is made based on specimens in BKF, BK, L, AAU, K, BM, E, P, KEP, SING and PSU etc. Three species and three varieties are described as new; a new combination, *L. trichophlebus* subsp. *barbellatus* (Ridley) H. Zhu, is made; eight species and five varieties are found to represent new records to Thailand; seven species, i. e. *L. brevidens* Craib, *L. densifolius* Miq., *L. incomptus* Craib, *L. scalaris* Craib, *L. penicillatus* Craib, *L. virgatus* Craib and *L. zambalensis* Elmer, are reduced to synonyms; two species, *L. brevipes* Craib and *L. lowianus* King et Gamble are moved to the genus *Saprosma*; the delimitation of some species is clarified. As a result, fifty-two species, one subspecies and twelve varieties are recognized in the genus *Lasianthus* from Thailand.

Key words *Lasianthus* Jack.; Rubiaceae; Taxonomic revision; Thailand

1 Introduction

Lasianthus Jack. is a large genus of about 142 species in the Rubiaceae, occurring from tropical Asia (c. 120 species) and Australia (only one species) to tropical Africa (c. 20 species) as well as tropical America (2 species) (Robbrecht, 1988). This genus is extremely difficult taxonomically not only because specific diagnostic characters are relatively scarce and based mainly on vegetative organs (such as indumentum, venation, stipules etc.) and quantitative characters, but also because most species of the genus occur only in primary forests. Many earlier species have only one or two collections in herbaria. Some species are never collected again except the type collection owing to the rapid disappearance of primary rain forests in tropical countries. *Lasianthus* species from Thailand were recorded and established mainly by Craib on Kerr's collections. Forty-seven species and five varieties were recognized from Thailand in Craib's Fl. Siam. Enum. (1934). No other treatment on *Lasianthus* species from Thailand has been seen. The author has worked on the genus *Lasianthus* for regional revisions (East Asia) (Zhu, 1998, 1994) and now is working on this genus for Flora of Thailand Project. After a full check of specimens mainly in BKF, BK, AAU, L, KEP, SING as well as PSU (Herbarium of Prince of Songkla University, Hat Yai, Songkhla 90112, Thailand), the result is presented as a preliminary revision on the genus *Lasianthus* from Thailand.

1999 10 30 收稿, 2000 07 09 收修改稿。

基金项目: 中国科学院百人计划, 中国科学院生物分类区系特别支持费, 中国科学院 KZ951-A1-104 课题, 国家科委 14.602 支持项目。

2 Taxonomic position

Hooker f. (1880, 1873) placed *Lasianthus* in the tribe Psychotriaceae based mainly on aestivation of corolla lobes, position, attachment and types of ovules. This treatment was followed by Schumann in 1891. Petit (1964) proposed new definitions for the Psychotriaceae and Morindeae based especially on seed characters (Psychotriaceae has seeds with horny endosperm and small embryos, while Morindeae has seeds with soft oily endosperm and large embryos) and transferred *Lasianthus* to the Morindeae. This treatment was followed by Verdcourt (1976) and Robbrecht (1988). Petit's work was based mainly on the research of African species, and *Lasianthus* is clearly different from *Morinda* in many characters, so the systematic position of *Lasianthus* still needs a further research.

3 History

Lasianthus Jack. was established in 1823. The earliest systematic research on the genus was Hooker's work (1880) which was mainly based on the collections from British India. Fifty-two species of British India were recognized and were classified into four sections, i. e. sect. I *Stipulares* (cymes sessile, embraced by the large coriaceous stipules); sect. II *Bracteatae* (cymes sessile, not embraced by the large stipules, accompanied by evident, long or short bracts); sect. III *Nudiflorae* (cymes sessile, bracts very inconspicuous, minute, subulate or absent) and sect. IV *Pedunculatae* (Cymes peduncled). The genus *Litosanthes* Bl. was reduced to the sect. *Pedunculatae*. Hooker's work established the taxonomic frame of this genus. Schumann (1891) followed Hooker's system. Ridley (1923) recorded 59 species from Malay Peninsula and put them into three sections: sect. I *EuLasianthus* (flower heads sessile, not longer than petioles; plants usually hairy; nervules conspicuously parallel); sect. II *Mephitidia* (foetid shrubs nearly all glabrous; leaves subcoriaceous or membranous, nervules not distinctly parallel but broken up; usually drying black; corolla usually longer); sect. III *Litosanthes* (cymes distinctly often long peduncled, nervation as in *EuLasianthus*; plants usually hairy). Pitard (1924) recorded 37 species from Indo-China. Craib (1934) recorded 47 species and 5 varieties from Thailand and Yamazaki (1964) recorded 5 species and 1 variety from Ryukyu. Bakhuizen (1965) recorded 28 species from Java and again accepted *Litosanthes* Bl. as a separate genus based on three characteristics, i. e. imbricate corolla, forked stipules and peduncled flowers. Verdcourt (1976) gave an account of the genus from tropical E. Africa. Denys (1981) revised the genus from Central Africa and 6 species were recognized. Robbrecht (1982) identified and discussed the only two species from tropical America. Deb and Gangopadhyay (1991, 1989) revised the genus of India and transferred the whole sect. *Pedunculatae* Hook. f. into *Litosanthes* Bl., but soon later Gangopadhyay & Chakrabart (1992) reduced *Litosanthes* Bl. to *Lasianthus* Jack again. Wong (1989) revised the genus from Malay Peninsula and recognized 54 species based on Ridley's work. Zhu (1998, 1994) revised the genus from China and Japan, and 30 species including 4 subspecies and 13 varieties were recognized.

In the absence of a complete revision of the whole genus, the establishment of the infrageneric system is still difficult to achieve.

4 Diagnostic characters

4.1 Life form

The *Lasianthus* species are usually shrubs, some undershrubs or grow into small trees, rarely

repent shrubs (some African species).

4.2 Indumentum

An indumentum is present on the branchlets, petioles, the lower surface of the leaves, especially on midrib and veins, as well as stipules in many of the species, and is of diagnostic importance. Some species are almost glabrous, such as *L. inodorus* and *L. lucidus*. A few species have the variation of indumentum from hairy on young branchlets and the lower surface of leaves to subglabrous or glabrous, which has led to the separation of varieties.

Types of indumentum are also of diagnostic importance: stiff-haired in *L. hirsutus*; villous in *L. chevalieri*, *L. sikkimensis* and *L. curtisii* etc.; pubescent in *L. kurzii*, *L. hookeri* etc.; hirsute or strigillose in *L. trichophlebus*.

4.3 Leaf size and shape

The foliage is variable either in shape or in size in *Lasianthus*. Some species have relatively small leaves, less than 10 cm long, such as *L. lucidus*, *L. curtisii* etc.; some have large leaves more than 15 cm long, such as *L. chinensis* and *L. hirsutus* etc. However, most species have oblong leaves. The apex of leaf is caudate in *L. saxorum*. Much more species are cuspidate-acuminate in the apex of leaf. Most species have leaves with cuneate or acute bases, but *L. wallichii* and *L. inaequalis* etc. have oblique, cordate or rounded bases.

4.4 Venation

The number of veins is of some diagnostic value. The veinlets are of more important diagnostic value. Venation is one of the important diagnostic characters between two easily confusing species, *L. chinensis* and *L. verticillatus*. *L. chinensis* has leaves with more than 10 pairs of veins and reticulate veinlets, while *L. verticillatus* has leaves with less than 10 pairs of veins and parallel veinlets. The venation is usually prominent beneath in this genus. A few species have faint prominence beneath.

4.5 Stipules

Stipules are of diagnostic importance for the infrageneric classification of the genus *Lasianthus*, so the sect. *Stipularis* was established by Hooker f. (1880). Among taxa studied, *L. trichophlebus*, *L. tomentosus* and *L. kurzii* have relatively large, more than 5 mm long, triangular or lanceolate stipules; *L. stipularis*, *L. maculatus*, *L. helfer* etc. have conspicuously large stipules. Some species have minute, inconspicuous stipules. Stipules are interpetiolar in the genus. However, in some references, stipules were confused with bracts in some species descriptions.

4.6 Inflorescence

Inflorescence is axillary, sessile, fascicled, or cymes with peduncles. Bracts or bracteoles are persistent or absent. The diagnostic importance of inflorescence was emphasized by Hooker f. (1880) in his work (sect. *Nudiflorae* and sect. *Pedunculatae* were established). The presence or absence, and the length of peduncles are important diagnostic characters among taxa of the genus, however the systematic value of peduncles is still unclear. The species *L. henryi* shows the variation from having very short c. 2 mm long peduncles to a prominence at axils of leaves or no peduncles at all. The author does not agree to Deb & Gangopadhyay by moving sect. *Pedunculatae* to *Lithosanthus* (1989). Bracts are particularly orbicular and coriaceous in the species *L. inodorus* and are linear or lanceolate in *L. wallichii*, *L. rhinocerotis*, *L. sikkimensis* etc., or inconspicuous or absent in *L. lucidus*, *L. curtisii* and *L. chinensis* etc.

4.7 Flowers

Flowers are small, sessile or subsessile. Some species have 4-merous flowers, such as *L. kerrii* and *L. trichophlebus*. Most species have 5-merous flowers. Calyx shows much more significant

diagnostic value. *L. curtisii* has calyx cleft nearly to the base; *L. chevdieri* has calyx lobes conspicuously longer than tubes; *L. formosensis* has calyx lobes as long as the tubes or a little longer than tubes; *L. hispidulus* usually has calyx with 5 minute and broad triangular teeth; *L. chinensis* has calyx with small, ovate and reflected lobes; *L. verticillatus* has calyx being truncate or with minute teeth. Corolla is easily falling in preparing specimens, and is not often used as a diagnostic character. The shape of stamens and the ovary are rarely used as diagnostic characters.

4.8 Fruit

Fruits are drupes crowned with persistent calyx lobes. The shape and size of fruit appear somehow different among species, while the indumentum and surface states (smooth or warty etc.) of fruit are more diagnostically important. The fruits have 3~ 8 pyrenes. The shape, surface states of seed coat and sections of seeds are of important diagnostic value.

5 Taxonomic revision

Lasianthus Jack. in Trans. Linn. Soc. 14: 125. 1823, nom. cons.; Bl. Bijdr.: 995. 1826; Spreng. Gen. Pl. 1: 94. 1830; Wight in Calc. Journ. Nat. Hist. 6: 498. 1846; Miq. Fl. Ind. Bat. 2: 314. 1855; Hook. f. in Benth. & Hook. f. Gen. Pl. 2: 129. 1873 & Fl. Brit. Ind. 3: 178. 1880; Kurz, For. Fl. Brit. Burma 2: 30. 1877; Hiern in Oliver, Fl. Trop. Afr. 3: 228. 1877; Schuman in Engl. & Prantl, Nat. Pflanzenfam. 4 (4): 120. 1891; Prain, Beng. Pl. 1: 576. 1903; Ridley, Fl. Malay Penins. 2: 149. 1923; Pitard in Lecomte, Fl. Gen. Indo-Chine 3: 371. 1924; Valetton, in Engl. Jahrb. 61: 105. 1927; Craib, Fl. Siam. Enum. 2(1): 207. 1934; Bakh. f. in Backer & Bakh. f., Fl. Java 2: 335. 1965; J. M. Chao in Fl. Taiwan 4: 282. 1978; Wong in Tree Fl. Mal. 4: 367. 1988; Deb et Gang. in J. Econ. Taxon. Bot. 15 (2): 270. 1991; H. Zhu in Acta Phytotax. Sin. 32 (1): 49. 1994.

Typus: *Lasianthus cyanocarpus* Jack. (typ. cons.)

Distribution: There are about 142 species distributed in tropical area of the world and the tropical Asia is the distribution center. Approximately 120 species are in tropical Asia, 20 species in Africa, 1 species in Australia and 2 in tropical America.

Key to the species

- 1. Flowers solitary or fascicular, sessile or subsessile.
- 2. Bracts conspicuous.
- 3. Bracts large, leaf_like, ovate or cordate.
- 4. Leaves cordate and oblique at base, subsessile 19. **L. inaequalis**
- 4. Leaves cuneate, acute, not oblique at base, petioles conspicuous 16. **L. hirsutus**
- 3. Bracts relatively small, non leaf_like.
- 5. Leaves cordate or slightly cordate and more or less oblique at base, subsessile or short petioled.
- 6. Nerves more than 10 pairs, calyx teeth filiform 35. **L. pilosus**
- 6. Nerves less than 10 pairs, calyx teeth triangular 53. **L. wallichii**
- 5. Leaves cuneate or subrotund, not oblique at base.
- 7. Branches glabrous; bracts orbicular, coriaceous 20. **L. inodorus**
- 7. Branches and leaves beneath villous or depressed pubescent; bracts chartaceous.
- 8. Bracts small, subulate or linear lanceolate.
- 9. Leaves relatively large, 9~ 12 cm long; bracts subulate.
- 10. Petioles up to 1 cm long, nervules dilute and inconspicuous; bracts very small; fruit conspicuously tetragonal 49. **L. tetragonus**
- 10. Petioles 3~ 5 mm long, nervules conspicuous beneath; bracts conspicuous; fruit not tetragonal.

11. Branches, leaves beneath densely tomentose, nervules reticulate; bracts and calyx spreading villous 36. **L. politus**
11. Branches, leaves beneath appressed pubescent; nervules parallel, bracts and calyx appressed pubescent 38. **L. rabillii**
9. Leaves small, 5~ 9 cm long; bracts linear_lanceolate.
 12. Leaves oblong to oblong_lanceolate, fruit with 4 pyrenes 21. **L. kerrii**
 12. Leaves lanceolate, fruit small, with 8 pyrenes 1. **L. appressus**
8. Bracts relatively large, linear, lanceolate or ovate.
 13. Stipules conspicuous, more than 5 mm long.
 14. Stipules quite large, completely covering the cymes 46. **L. stipularis**
 14. Stipules not covering the cymes.
 15. Bracts linear, up to 1.7 cm long 24. **L. lineolatus**
 15. Bracts non_linear, not more than 5 mm long.
 16. Branches appressed pubescent; leaves cuneate at base, appressed pubescent on nerves beneath.
 17. Stipules up to 8 mm long; fruit hirsute, with 5~ 6 pyrenes 22. **L. kurzii**
 17. Stipules up to 5 mm long; fruit subglabrous, with 4 pyrenes 14. **L. foxworthyanus**
 16. Branches spreading villous; leaves obtuse to rounded at base, spreading villous or ciliate beneath 2. **L. aristatus**
 13. Stipules not conspicuous.
 18. Leaves lanceolate to elliptic_lanceolate; bracts linear to lanceolate, up to 2 cm long; fruit smooth 45. **L. sikkimensis**
 18. Leaves oblong to elliptical; bracts filiform; fruit rugulose 41. **L. ridleyi**
2. Bracts not conspicuous or absent.
 19. Calyx lobes linear, more than 10 mm long 5. **L. chevalieri**
 19. Calyx lobes not linear, no more than 10 mm long.
 20. Calyx lobes longer than tube or as long as tube.
 21. Calyx cleft nearly to the base, calyx lobes lanceolate and obviously longer than tube 10. **L. curtisii**
 21. Calyx not cleft to the base, calyx lobes linear_lanceolate or triangular, slightly longer than or almost as long as tube.
 22. Leaves usually small, ovate or ovate_oblong, the apex caudate, nerves 3~ 5 pairs.
 23. Leaves with cuneate base; petioles 5~ 8 mm long; flowers 5_merous, calyx lobes linear_lanceolate 26. **L. lucidus**
 23. Leaves with subrounded or rounded base; petioles 2~ 3 mm long; flowers 4_merous, calyx lobes triangular 42. **L. samentosus**
 22. Leaves usually 10~ 16 cm long, oblong or elliptic_oblong, or obovate_rhombic, nerves 6~ 8 pairs.
 24. Leaves oblong or elliptic_oblong, nerves 6~ 7 pairs; branches and leaves beneath spreading hairy; calyx 4~ 5 mm long 13. **L. formosensis**
 24. Leaves obovate_rhombic, nerves 8 pairs; branches and leaves beneath densely appressed hirsute; calyx very small, only 2 mm long 33. **L. parviflorus**
 20. Calyx lobes obviously shorter than tube.
 25. Leaves with conspicuously reticulate veinlets.
 26. Leaves chartaceous.
 27. Branches densely pubescent, so as leaf nerves beneath; leaves narrowly oblong, nerves 12~ 14 pairs 4. **L. chartaceus**

27. Branches glabrous, so as leaf nerves beneath; Leaves oblong_lanceolate or oblong_oblanceolate.
 28. Stipules small, lanceolate; nerves 8~ 9 pairs 8. **L. conspicuus**
 28. Stipules oblong_triangular, 5 mm long; nerves 13~ 16 pairs 39. **L. repoeuensis**
26. Leaves coriaceous.
 29. Calyx cupular, with limb truncate or minutely dentate 47. **L. subaureus**
 29. Calyx not cupular, without truncate limb.
 30. Stipules triangular, 2~ 3 mm long; calyx lobes or teeth ovate and reflected; fruit with 5~ 6 conspicuous longitudinal angles 6. **L. chinensis**
 30. Stipules triangular with broad base and abruptly narrowed apex; calyx with minute teeth; fruit subglobose without angles 29. **L. malaccensis**
25. Leaves with parallel or subparallel nervules.
 31. Stipules more than 5 mm long, hirsute or glabrous outside.
 32. Leaves broadly elliptic, 5~ 7 cm broad, stipules broadly triangular 11. **L. ellipticus**
 32. Leaves not broadly elliptic, less than 5 cm broad, stipules not broadly triangular.
 33. Stipules glabrous outside, very coriaceous; calyx limb tubular, truncate 15. **L. helfer**
 33. Stipules hirsute outside, calyx limb not cupular and truncate.
 34. Stipules large, up to 8 mm long, triangular_oblong, subcoriaceous and persistent
 35. Leaves with cuneate base, fruit with 4 pyrenes 27. **L. maculatus**
 35. Leaves with oblique rounded base, fruit with 5 pyrenes 30. **L. marginatus**
 34. Stipules lanceolate or linear_lanceolate, 5~ 7 mm long, chartaceous, often deciduous.
 36. Hirsute on young branches and leaf nerves beneath, leaves coriaceous 51. **L. trichophlebus**
 36. Hirsute on branches and pubescent on lower surface of leaves; leaves subcoriaceous 50. **L. tomentosus**
31. Stipules much smaller, less than 5 mm long, puberulous.
 37. Calyx cupular, limb usually truncate; leaves large.
 38. Calyx mouth quite wide; nervules subparallel; fruit 10_ribbed 34. **L. perakensis**
 38. Calyx mouths not wide; nervules parallel; fruit smooth 52. **L. verticillatus**
 37. Calyx not cupulate, with conspicuously lobes; leaves large or small.
 39. Leaves large, more than 13 cm long, nerves more than 5 pairs.
 40. Leaves lanceolate; nerves 9_paired, nervules subreticulate with forks very slender; branches and nerves beneath sparsely depressed_pubescent 23. **L. lancifolius**
 40. Leaves not lanceolate, nerves 5~ 9_paired, nervules subparallel or parallel and conspicuously elevated beneath; branches and nerves beneath densely appressed puberulous or glabrous.
 41. Leaves oblong or oblong_lanceolate, 3~ 6 cm broad, ciliate_hairy along nerves beneath and at margins; calyx not constricted below the teeth, fruit smooth with 5 pyrenes 18. **L. hookeri**
 41. Leaves elliptic_oblanceolate, 6~ 9 cm broad; calyx constricted somewhat below teeth; fruit with 3~ 4 pyrenes.
 42. Branches and leaves glabrous, fruit fusiform 48. **L. subcalvus**
 42. Branches and nerves beneath minutely appressed pubescent; fruit ellipsoid 28. **L. maingayi**
39. Leaves relatively small, less than 13 cm long.
 43. Fruits with 3 pyrenes 32. **L. oligoneurus**
 43. Fruits with 4~ 5 pyrenes.
 44. Fruits with 4 pyrenes.
 45. Branches tomentose; leaves pubescent beneath, nerves 8 pairs; calyx not constricted at the throat, calyx lobes lanceolate; fruit ferrugineo_villous 44. **L. schmidtii**
 45. Branches appressed pubescent; leaves sparsely strigose on nerves beneath, nerves 5~ 6 pairs; calyx somewhat constricted at the throat, shortly 4_toothed limb or almost truncate; fruit glabrous 9. **L. constrictus**

44. Fruit with 5 pyrenes.

46. Branches glabrous or sparsely puberulous; calyx sparsely pubescent, fruit glabrous or subglabrous

..... 12. **L. fordii**

46. Branches and leaves beneath densely pubescent or villous; calyx densely pubescent or hirsute; fruit puberulous or hirsute.

47. Branches and leaves beneath densely villous; leaves elliptic or ovate-oblong, the apex cuspidate-acuminate, the base obtuse; calyx densely hirsute, fruit hirsute

..... 17. **L. hispidulus**

47. Branches and leaves beneath appressed pubescent; leaves oblong-lanceolate, the apex caudate, the base cuneate; calyx appressed pubescent, fruit fuscous-puberulous

..... 43. **L. saxorum**

1. Flowers peduncled.

48. Peduncles more than 6 mm long.

49. Plant glabrous; peduncles more than 2 cm long 25. **L. longipedunculatus**

49. Plant not glabrous; peduncles 6~10 mm long.

50. Peduncles slender, branches and leaves beneath sparsely pilose; nerves impressed above, nervules inconspicuous above; flowers 4-merous 3. **L. bicolor**

50. Peduncles relatively robust; branches and leaves beneath appressed pubescent; nerves and nervules conspicuous both sides; flowers 5-merous 37. **L. puberulus**

48. Peduncles usually less than 6 mm long.

51. Peduncles conspicuous, slender, 3~5 mm long; leaves relatively small, 5~10 cm long and 2.5~3.5 cm broad 31. **L. micranthus**

51. Peduncles conspicuous or not conspicuous, or congested to a short prominence; leaves relatively large, more than 12 cm long and more than 3.5 cm broad.

52. Plant almost glabrous; leaves chartaceous, nerves 6~7 pairs; peduncles congested to a short prominence; bracts inconspicuous; flowers small, calyx less than 2.5 mm long and with triangular or subulate lobes 7. **L. congesticymus**

52. Plant hairy; leaves coriaceous, nerves 10~12 pairs; peduncles conspicuous or not conspicuous; bracts numerous, linear or filiform, 0.6~2 cm long, villous; flowers relatively big, calyx up to 8 mm long with linear-lanceolate lobes 40. **L. rhinocerotis**

5.1 *Lasianthus appressus* Hook. f., Fl. Brit. Ind. 3: 181. 1880; King et Gamble, Mat. Fl. Malay Penins. no. 15: 121. 1904; Ridley, Fl. Malay Penins. 2: 156. 1923; Craib, Fl. Siam. Enum. 2 (1): 207. 1934; Wong, Tree Fl. Malay Penins. 4: 371. 1989. SYNTYPES: Malay Peninsula. Penang, Wall. Cat. 8443 (K); Malacca, Griffith s. n. (Kew Distrib. 2927, K).

Distribution: Thailand, Malaysia (Malay Peninsula), Singapore.

Thailand. Phuket: Kiah 24387 (BK); Langkawi: Haniff et Nur 7142 (BK); Nakorn Sritamarat: Kerr 15639 (BK), Sirirugsa 384 (PSU), Shimizu *et al.* 8220 (BKF), Puff *et al.* 930712_1/1 (AAU); Pattalung: Sirirugsa 1034 (PSU), Puff *et al.* 930724_1/4 (AAU), Larsen *et al.* 43946 (AAU); Trang: Puff *et al.* 930729_1/2 (PSU); Satun: Larsen *et al.* 41108 (AAU); Songkla: Larsen *et al.* 42433 (AAU), Puff *et al.* 930804_1/9 (AAU).

Malaysia. Perak, Singapore field no. 12699 (KEP).

5.2 *Lasianthus aristatus* Craib in Kew Bull. 1933: 18. 1933 et Fl. Siam. 2 (1): 207. 1934. TYPE: Thailand. Chantaburi, Kerr 17914 (holotype, K; isotypes, BM, BK).

Distribution: Endemic to Thailand.

5.3 *Lasianthus bicolor* Craib in Kew Bull. 1933: 19. 1933 et Fl. Siam. Enum. 2 (1): 207. 1934. TYPE: Thailand. Payap, Kerr 6180 (holotype, K; isotype, BK).

Distribution: Endemic to Thailand.

5.4 *Lasianthus chartaceus* Craib in Kew Bull. 1933: 20. 1933 et Fl. Siam. Enum. 2 (1): 208. 1934. TYPE: Thailand. Puket, Rabil 267 (holotype, K; isotypes, BM, BK).

Distribution: Endemic to Thailand.

Thailand. Nakawn Sritamarat, Kiah 24402 (BK).

5.5 *Lasianthus chevalieri* Pitard in Lecomte, Fl. Gen. Indo-Chine 3: 384. 1924; H. Zhu in Acta Bot. Yunnan. 20 (2): 151. 1998. TYPE: Vietnam. Annam, Lang-bian (alt. 1500~2000 m), A. Chevalier 30383 (holotype, P).

Lasianthus longisepalus Geddes in Kew Bull. Misc. Inform. 1928: 245. 1928; Craib, Fl. Siam. Enum. 2 (1): 213. 1934; H. Zhu in Acta Phytotax. Sin. 32 (1): 63. 1994. TYPE: Thailand. Chantaburi, Kerr 9632 (holotype, K; isotypes, BK, NY).

Lasianthus longisepalus Geddes var. *jiarfengensis* H. S. Lo in Bot. J. S. China 1993: 4. 1993. TYPE: China. Hainan, Hainan Exped. 203 (holotype, SCBI).

Distribution: Thailand, Vietnam, SE China (Hainan).

Thailand. Krat, Put 2987 (BK), Kerr 17811 (BK); Chantabun, Kerr 9432 (BK); Chantaburi, Beusekom et Smitinand 2203 (E, AAU), Iwatsuki *et al.* 7138 (BKF), Smitinand 5472 (BKF), Shimizu *et al.* 23760 (BKF), 23735 (BKF).

Vietnam. Kon Tum, Averyanov *et al.* VH 1099 (HN); Lang Bian, Tixier s. n. (P); Marr line (Dalat), Tixier 6 (P).

5.6 *Lasianthus chinensis* (Champ.) Benth., Fl. Hongkong. 160. 1861; Hook. f. Fl. Brit. Ind. 3: 187. 1880; Forb. et Hemsl. in Journ. Linn. Soc. (Bot.) 23: 388. 1888; Yamazaki in J. Jap. Bot. 39: 352. 1964; T. S. Liu et J. M. Chao in Taiwania 10: 124. fig. 4. 1964; J. M. Chao in Fl. Taiwan 4: 286. 1978, excl. pl. 1005; H. Zhu in Acta Phytotax. Sin. 32 (1): 67. 1994. —*Mephitidia chinensis* Champ. in Kew Journ. Bot. 4: 196. 1852. TYPE: China. Hongkong, Champion? no. 112 (lectotype, K, designated here; isoelectotype, NY).

Lasianthus dinhensis Pierre ex Pitard in Lecomte, Fl. Gen. Indo-Chine 3: 388. 1924. SYNTYPES: Cambodia. Kampot, Poilane 283 (P); Cochinchina, Baria, Pierre 3257 (P; isosyntypes, K, BM).

Mephitidia odajimae Masam. in Trans. Nat. Hist. Soc. Formos. 24: 211. 1934. —*Lasianthus chinensis* (Champ) Benth. var. *odajimae* (Masam.) Kanehira, Formos. Trees rev. ed.: 669. 1936.

Distribution: China, Vietnam, Laos, Cambodia, Thailand (new record), Malay Peninsula, Philippines.

L. chinensis Benth. is easily confused with *L. verticillatus* (Lour) Merr. (= *L. obliquinervis* Merr.). The confusion occurred in many references. According to Benth's original description, *L. chinensis* has leaves with parallel nerves conspicuous on both sides, diverging from the midrib, but the type specimen shows almost reticulate veinlets. This may be a factor leading to the confusion. *L. chinensis* usually has dense pubescence on branches and leaf nerves beneath, and leaves chartaceous or subcoriaceous with 10~13 (15) pairs of nerves and reticulate veinlets as well as reflexed margins, calyx with triangular, ovate or orbicular inflected lobes, and fruit with 5~6 conspicuous, longitudinal angles. *L. obliquinervis* Merr. has thin or sparse appressed pubescence on branches and leaf nerves beneath, and coriaceous leaves with 5~9 pairs of nerves and parallel veinlets, and cupulate, usually truncate or sometimes minutely toothed calyx, and fruit without angles.

Thailand. Nakhon Nayok, Murata *et al.* T_52379 (BKF); Loei, Murata *et al.* T_51489 (BKF), Fukuoka T. 63815 (BKF), Simizu *et al.* 8859 (BKF), 8858 (AAU); Songkla, Maxwell

s. n. (PSU), Maxwell 86_30 (BKF); Chantaburi, Sakol 308 (BK), C. Phongklan 3234 (BKF); Trat, Geesink 6653 (BKF); Khao Yai, J. E. Vidal 4592 (P, E); Khon Kaen, 900 m alt., Murata *et al.* 41659 (BKF).

Vietnam. Tonkin, W. T. Tsang 30333 (L), 30745 (E, L).

China. Taiwan: T. Tanaka 11131 (K); Hongkong: J. Lamont 324 (BM); Fujian: Wong Sing Pol 2086 (BM); Guangdong: Mt. Dinghu, C. J. Liao 15196 (SCBI).

Malaysia. Malay Peninsula, Griffith s. n. (Kew distrib. 2920) (K); Kopeng, FMS 37790 (KEP); Malacca, Griffith 2920 (K), Griffith s. n. (K), A. Maingay 865 (K), 1305 (K).

Philippines. Palawan, Victoria Mt., Edano 5259_4 (L).

5.7 *Lasianthus congesticymus* H. Zhu, sp. nov. Fig. 1.

Similis *L. lançfolio* Hook. f., sed foliis latioribus, nervis lateralibus utrinque 6~7, cymis subsessilibus vel breviter pedunculatis, floribus 4-meris, fructibus ellipsoideis rugosis differt.

Frutex; ramuli subglabri, primo compressi, in sicco fusci, mox teretes. Folia elliptica apice acuminata vel subcaudata, basi cuneata vel rotundata saepe inaequilateralia, 12~19 cm longa, 3.5~6.5 cm lata, chartacea, sicca plus minusve fuscescentia, subtus viridia, utrinque glabra, costa supra conspicua, subtus prominente, nervis lateralibus utrinque 6~7 supra conspicuis subtus prominulis, nervulis subparallelis utrinque conspicuis; petioli 8~10 mm longi subglabri; stipulae triangulae, acutae, 1.5 mm longae. Inflorescentia pedunculis abbreviatis instructa, floribus subsessilibus. Calyx 2 mm longus, lobis 4, triangularibus, 1 mm longis extus sparse puberulis; corolla 1 cm longa extus superne puberula, lobis 5 supra pilosis. Fructus ellipsoidei, 5 mm longi rugosi.

Thailand Nakhon Sriathamath, Khao Luang, evergreen montane forest, alt. 700~1200 m., 1995_08_24, K. Larsen *et al.* 45955 (holotype, AAU, here designated); Phattalung, Puff *et* Sridith 930711_1/1 (AAU); Trang, Bunnab 467 (BKF).

L. congesticymus differs from *L. lançfolius* by having broader leaves with nerves 6~7 paired, subsessile or short peduncled cyme, 4-merous flowers and ellipsoid rugose drupes.

5.8 *Lasianthus conspicuus* Ridley in Journ. Fed. Mal. States Mus. 4: 36. 1909; Ridley, Fl. Malay Penins. 2: 167. 1923; Craib, Fl. Siam. Enum. 2 (1): 209. 1934; Wong, Tree Fl. Malay Penins. 4: 369. 1989. TYPE: Malay Peninsula. Pahang, Ridley 13628 (SING).

Distribution: Malaysia (Malay Peninsula), Thailand.

Thailand. Pattani, Kerr 14946 (BK); Satun, Maxwell 85_837 (BK).

Malaysia. Malay Peninsula, F. G. Sow 47163 (KEP).

5.9 *Lasianthus constrictus* Wight in Calc. Journ. Nat. Hist. 6: 515. 1846; Kurz, For. Fl. Brit. Burma 2: 31. 1877; Hook. f., Fl. Brit. Ind. 3: 188. 1880. TYPE: Myanmar. Griffith s. n. (K).

5.9a var. *constrictus*

Distribution: Myanmar.

The specimens Kerr 9297 and Kerr 19425 were cited by Craib (1934) as *L. constrictus* Wight. I checked Kerr 9297 in BK which does not agree with Wight's type specimen but is similar to *L. maculatus* Craib, while Kerr 19425 in K agrees much more with var. *latifolius* Craib.

5.9b var. *latifolius* Craib, Fl. Siam. Enum. 2 (1): 209. 1934. TYPE: Thailand. Pattani, Kerr 14940 (holotype, K; isotype, BK).

Lasianthus constrictus auct. non Wight: King *et* Gamble, Mat. Fl. Malay Penins. no. 15: 117. 1904; Ridley, Fl. Malay Penins. 2: 163. 1923; Craib, Fl. Siam. Enum. 2 (1): 209. 1934; Wong, Tree Fl. Malay Penins. 4: 369. 1989.

Distribution: Thailand, Malaysia, Indonesia.

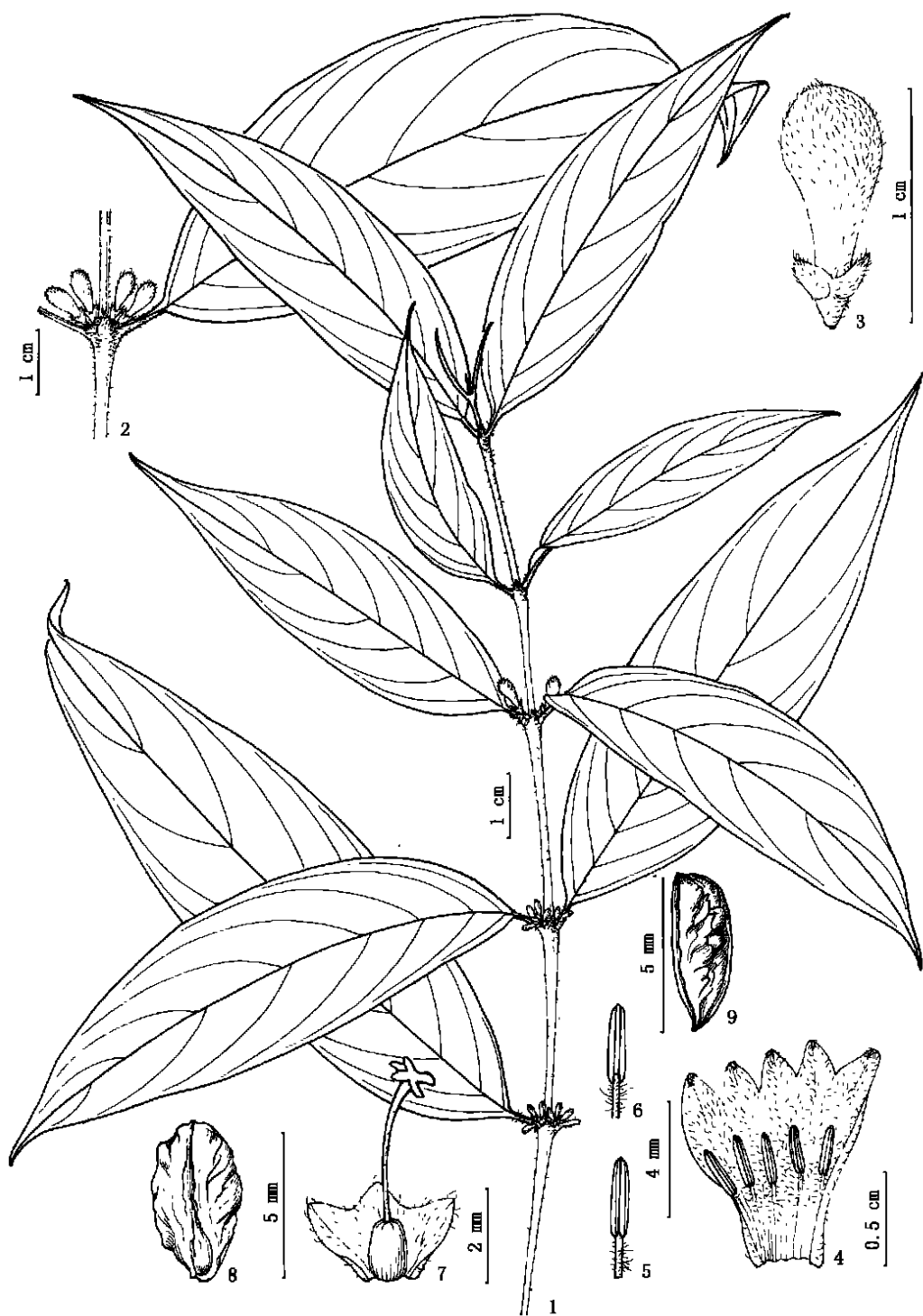


Fig. 1 *Lasianthus congesticymus* H. Zhu

1. Flowering branch; 2. Enlarged inflorescence; 3. An enlarged flower; 4. Corolla split opened;
5 & 6. Stamen; 7. Calyx split opened; 8. Pyrene (adaxial view); 9. Pyrene (lateral view) (Drawn by X. L. Wu)

This variety is different from the typical variety by having much more broad leaves, longer stipules and bigger fruit.

Thailand. Puket, Kerr 16318 (BK); Trat, Murata *et al.* T_17522 (BKF); Nakawn Sritamarat, Tagawa T_6731 (BKF); Phangnga, Beusekom *et al.* 696 (BKF); Chanthaburi, Niyomdham *et al.* 1318 (BKF); Peninsular region, Anan 753; Winit 49 (BKF).

Malaysia. Malay Peninsula, Selagor, FRI 13491 (KEP); Pulan Tioman, Beukili 24848 (KEP). Borneo, Steenis 1114 (L); Kalimantan, E.F. de Vogel 886 (L), Kuswata 774 (L).

Indonesia. Sumatra, E Coast, Rahamat Toroos 3484 (L), Beccari 952 (L); Java, Kds. *et al.* 44074 (L).

5.10 *Lasianthus curtisii* King et Gamble in J. Asiat. Soc. Bengal. 73: 128. 1904; Ridley, Fl. Malay Penins. 2: 161. 1923; Craib, Fl. Siam. Enum. 2 (1): 209. 1934; Yamazaki in J. Jap. Bot. 39 (1): 352. 1964, pro parte excl. syn. *L. formosensis* Matsum. var. *parvifolius* Hartusima; T. S. Liu et J. M. Chao in Taiwan. 10: 126. f. 5. 1964; H. Zhu in Acta Phytotax. Sin. 32 (1): 64. 1994; H. Zhu in Acta Bot. Yunnan. 20 (2): 151. 1998. SYNTYPES: Malaysia. Penang, Curtis 284 (syntype, SING; isosyntype, K), 9355.

Lasianthus formosensis Matsum. var. *hirsuta* Matsum. in Bot. Mag. Tokyo 15: 17. 1901. TYPE: China. Taiwan, C. Owatari, s. n. not seen.

Lasianthus kwangtungensis Merr. in Lingn. Sci. J. 7: 323. 1929. TYPE: China. Hongkong, Y. Tsiang 55 (holotype, SCBI; isotype, K).

Lasianthus condorensis Pierre ex Pitard in Lecomte, Fl. Gen. Indo-Chine 3: 385. 1924. SYNTYPES: Vietnam. Tonkin, Bavi, Balansa 2658 (P); Annam, Quang-tri, Eberhardt 1981 (P); Cochinchina, Condor, Harmand 916 (P).

5.10a var. *curtisii*

Distribution: China, Japan (Kyushu, Ryukyu), Vietnam, Thailand, Malaysia and Indonesia (Sumatra).

Thailand. Surat, Kerr 13237 (BK); Nakawn Sritamarat, Kerr 15952 (BK, E), Larsen *et al.* 45902 (AAU); Khao Rum, Smith 581 (BK); Loei, Murata *et al.* T_42855 (BKF), Fukuoka T_63786 (BKF), Chant 90127, Murata *et al.* 42684 (BKF); Surathani, Geesink *et al.* 7782 (BKF); Peninsular region, Sanan 752 (BKF), P. S. 137 (BKF); Songkla, Kerr 15952 (E, BK).

Vietnam. Tonkin, W. T. Tsang 29874; Fancheng Tonkin, W. T. Tsang 26718 (SCBI).

Indonesia. Sumatra, Bangka, Kostermans & Anta 92 (K, L), Kostermans 23 (L).

China. Guangdong: Dinghu Mt. collector unknown 15819 (SCBI); Taiwan: unknown coll. s. n. (no. herb. 187724, 187745) (SCBI).

Japan. Ryukyu, Okinawa, Furuse 4899 (K); Menokawa, Murata *et al.* 17728 (SCBI).

5.10b var. *insularis* Craib, Fl. Siam. Enum. 2 (1): 210. 1934. TYPE: Surat, Put 1189 (holotype, BM; isotypes, BK, K, E).

Distribution: Endemic to Thailand.

Thailand. Chanthaburi, Shimizu *et al.* T_23865 (BKF).

This variety differs from the typical variety by having sparser indumentum on branches and leaves beneath.

5.11 *Lasianthus ellipticus* Wight in Calc. Nat. Hist. 6: 507. 1846; Hook. f., Fl. Brit. Ind. 3: 182. 1880; King et Gamble, Mat. Fl. Malay Penins. no. 15: 118. 1904; Ridley, Fl. Malay Penins. 2: 159. 1923; Wong, Tree Fl. Malay Penins. 4: 372. 1989. TYPE: Malacca, Griffith s.

n. (Kew Distrib. 2934) (K) .

Lasianthus venulosus Ridl. in Journ. Roy. As. Soc. S. Br. 61: 23. 1912, non Wight (1846). SYNTYPES: Singapore. Chan Chu Kang 6146, Bukit Panjang 12542, not seen.

Lasianthus sordidus Ridl. in Journ. As. Soc. Straits, 57: 60. 1911. TYPE: Malay Peninsula, Ulu Temengoh, Ridley 14488 (K) .

Lasianthus scalaris Craib in Kew Bull. 1933: 26. 1933 et Fl. Siam. Enum. 2 (1): 216. 1934, syn. nov. TYPE: Puket, Kerr 18809(holotype, K; isotypes, BK) .

Distribution: Thailand, Malaysia (Malay Peninsula, Borneo), Indonesia (Sumatra) (new record) .

Thailand. Surat, Kerr 16265 (BK); Puket, Kerr 16332, 14437, 14438(BK); Peninsular region, Larsen *et al.* 30923 (BKF, AAU), P. S. 1839 (BKF); Narathivat, Prayad 496 (BK), Larsen *et al.* 45685 (AAU), 42242(AAU); Trang, Larsen *et al.* 33176 (AAU); Nakhon, Larsen *et al.* 44161 (AAU); Ranong, Puff *et al.* 930706_1/3 (AAU); Peninsular region (West coast), Kloss *et al.* 7007 (K) .

Malaysia. Malay Peninsula, Perak, Ridley 14490 (K); Sarawak, P. 4518 (SING); Borneo, Boden_Kloss 19041 (SING) .

Indonesia. Sumatra, Wilde *et al.* 20332 (L); E Coast of Sumatra, Asahan, B. A. Krukoff 4061 (L) .

5. 12 *Lasianthus fordii* Hance in Journ. Bot. 23: 324. 1885; Baker in Journ. Bot. 24: 118. 1886; Forb. et Hemsl. in J. Linn. Soc. (Bot.) 23: 1888; Yamazaki in J. Jap. Bot. 39: 352. 1964, excl. var. *pubescens* (Matsum.) Yamazaki; T. S. Liu et J. M. Chao in Taiwania 10: 128. f. 7. 1964; H. Zhu in Acta Phytotax. Sin. 32 (1): 72. 1994. TYPE: China. Guangdong (Kwangdong), Lo Fu Shan, Ford. 66 (holotype, BM; isotype, K) .

Lasianthus tashiroi Matsum. in Bot. Mag. Tokyo 15: 37. 1901. —*Mephitidia tashiroi* (Matsum.) Nakai, Trees and Shrubs Jap. ed. 1: 396. 1922. TYPE: T. Uchiyama s. n., not seen.

Mephitidia tashiroi (Matsum.) Nakai var. *kotoensis* Nakai ex Sasaki, List. Pl. Form. 3: 82. 1928, nom. nud.

Lasianthus zambalensis Elmer, Leaf. Philipp. Bot. 9: 3209. 1934, syn. nov. TYPE: Philippines. Luzon, Pampanga, Elmer 22045 (holotype, NY; isotypes, K, P, L) .

Lasianthus kamputensis Pierre ex Pitard in Lecomte, Fl. Gen. Indo_Chine 3: 392. 1924, pro parte. quoad syntypes, Eberhardt 2050 (P), Pierre 3266 (P) .

Distribution: China, Japan (Yakusima, Kyushu, Ryukyu), Philippines, Thailand (new record) and Vietnam, Cambodia, Indonesia (Java) (new record), New Guinea (new record) .

Thailand. Chantaburi, Beusekom et Smitinand 2201 (E, AAU), Shimizu *et al.* T_23734 (BKF); Loei, Beusekom *et al.* 4564 (P), Murata *et al.* T_42686 (BKF), 42859 (BKF), Fukuoka T_63816 (BKF); Udawn, Tagawa *et al.* T_472 (BKF); Nakhon Nayok, Murata *et al.* T_52384 (BKF), 52390 (BKF); Chiang Mai, Doi Inthanon, Phengkklai *et al.* 7028 (BKF), Sorensen *et al.* 6335 (BKF), Maxwell 92_195 (AAU) .

Vietnam. Ninh Binh, Tirvengadam *et al.* 3350 (AAU), 3351(AAU); Lam Dong, Tirvengadam *et al.* 1640 (AAU); Quang tri, Eberhardt 1081(P) .

Cambodia. Kampot, Pierre 3266 (P) .

Indonesia. Java, Tjiapatat, Voegd 3147 (L) .

Philippines. Luzon, A. Loher 6337(K), 980(K), R. Williams 1067(K), F. M. Vanoverbergh 1627 (P); Mindanao, E. Elmer 11341(K, E), M. Ramos 15273(K), E. Jacobs 7576(K); Benquet, C. B. Robinson 14081 (E); Laguna, C. B. Robinsion 58431_2 (P, L); Negros, Merrill 7041 (L); Mindoro, Merrill 5739 (L).

China. Taiwan: J. Gressitt 292(K), A. Henry 106(K), W. R. Price 260, E. Wilson 9998 (K); Boufford *et al.*, 25164 (KUN), 25009(KUN). Hongkong: L. X. Chun 40225 (SCBI). Guangdong: Dinghu Mt. H. Zhu 90_6_5, 90_6_1 (HITBC). Yunnan: Mengla, H. Zhu 92012 (HITBC).

Japan. Kyushu, M. Furuse 10448(K), 10409(K), 13443(K), 8056(K), Yamazaki 6992 (K), M. Togasi 1435 (K, E, BM); Yaeyama, M. Furuse 3495, 3139; Okinawa, Yamazaki 1991; Murata 5072, M. Furuse 4666, 1765, 4481, 5172, 4984, 4469.

New Guinea. Mt. Nerimbau, 1650 m, Chr. Versteegh BW 12622 (L), Star Mts., 1200~1300 m, C. Kalkman 4234 (L); Morobe, 5200 ft. L. A. Craven *et al.* 1082 (L).

5.13 *Lasianthus formosensis* Matsum. in Bot. Mag. Tokyo 15: 17. 1901; Simizu in Trans. Nat. His. Soc. Formos. 34: 300. 1944; T. S. Liu et J. M. Chao in Taiwania 10: 132. fig. 8. 1964; H. Zhu in Acta Phytotax. Sin. 32 (1): 66. 1994. —*Mephitidia formosensis* (Matsum.) Nakai, Trees and Shrubs Jap. ed. 1: 394. 1922. TYPE: China. Taiwan, Y. Tashiro no. 131, not seen.

Lasianthus tasiroi Matsum. var. *pubescens* Matsum. in Bot. Mag. Tokyo 15: 177. 1901. —*Lasianthus fordii* Hance var. *pubescens* (Matsum.) Yamazaki in J. Jap. Bot. 39: 352. 1964, pro parte, excl. syn. *Lasianthus trichophlebus* Hemsl. —*Lasianthus fordii* Hance f. *pubescens* (Matsum.) Kitamura in Acta Phytotax. Geobot. 25: 34. 1972. TYPE: Liukiu, Y. Tashiro s. n., not seen.

Lasianthus formosensis Matsum. var. *liukiuensis* Matsum. ex Sakaguchi, Gen. Ind. Fl. Okinawa 11: 1924, nom. nud.

Lasianthus tenuicaudatus Merr. in Lingn. Sci. Journ. 7: 324. 1929. TYPE: China. Guangdong, Y. Tsiang 822 (SCBI).

Lasianthus kwangsiensis Merr. ex Li in Journ. Am. Arb. 24: 458. 1934. TYPE: China. Kwangsi, W. T. Tseng 24679 (holotype, NY; isotype, SCBI).

Lasianthus tawadae Ohwi in Acta Phytotax. Geobot. 10: 137. 1941. TYPE: Okinawa Isl., S. Tawad 6738, not seen.

Lasianthus incomptus Craib in Kew Bull. 1933: 21. 1933 et Fl. Siam. Enum. 2(2): 212. 1934, syn. nov. TYPE: Chantaburi, Kerr 9618. (holotype, K; isotype, BK).

Distribution: China, Japan (Yakushima, Kyushu, Ryukyu), Indochina, Thailand.

This species is close to *L. fordii* Hance. It was once reduced to a pubescent variety or a form of *L. fordii* Hance. It is difficult to distinguish this species from *L. fordii* Hance only on the indumentum, which is often variable responsive to habitats. Scrutiny on those two species reveals that *L. formosensis* Matsum. has lanceolate calyx lobes longer than tube and usually dense indumentum, while *L. fordii* Hance has triangular lobes obviously shorter than tube and usually thin and sparse indumentum. Therefore, *L. formosensis* Matsum. and *L. fordii* Hance are still treated as two separate species.

The type of *L. incomptus* Craib agrees well with the specimens of *L. formosensis* Matsum from SW China.

Thailand Chieng Mai, Bunchuai 1478 (BKF); Nakhon Nayok, Murata *et al.* T_52639 (BKF); Loei, Beusekom *et al.* 4561 (BKF); Pangnga, Geesink *et al.* 5141 (AAU).

Vietnam Tonkin, Eberhardt 4720 (P); Cochinchina, Poilane 705 (P).

Japan Yak Is., Murata 17728; Oshima, Faurie 3994 (BM), 245 (BM).

5.14 *Lasianthus foxworthyanus* Craib in Kew Bull. 1933: 21. 1933 et Fl. Siam. Enum. 2 (1): 211. 1934; Wong, Tree Fl. Malay Penins. 4: 369. 1989. TYPE: Thailand. Pattani, Kiah 24312 (isotypes, BK, KEP).

Distribution: Thailand, Malaysia (Malay Peninsula).

Thailand Trat, Beusekom *et al.* 3231 (BKF); Nakhon Sitammarat, Ramsri 70 (PSU); Songkla, Maxwell 84~ 165 (PSU), 84~ 123 (PSU), Sirirugsa 1066 (PSU); Yala, Puff *et al.* 930717_1/5 (AAU).

Malaysia Malay Peninsula, Kelantan, KEP 104817 (KEP).

5.15 *Lasianthus helfer* Hook. f., Fl. Brit. Ind. 3: 189. 1880. TYPE: Tenasserim or Arraman Islands, Helfer s. n. (Kew Distrib. 2921, lectotype, K, designated by Deb & Gongopachay in 1991; isoelectotypes, HUH, L).

Distribution: India (Andaman islands), Myanmar and Thailand (new record).

Thailand Ranong, Larsen *et al.* 43224 (PSU, SCBI).

5.16 *Lasianthus hirsutus* (Roxb.) Merr. in Journ. Arn. Arb. 33 (3): 229. 1952; Bakh. f. in Backer et Bakh. f., Fl. Java 2: 339. 1965; Deb et Gang. in J. Econ. Tax. Bot. 15 (2): 282. f. 4. 1991; H. Zhu in Acta Phytotax. Sin. 32 (1): 58. 1994. — *Triosteum hirsutum* Roxb. Fl. Ind. 2: 180. 1824; Britten in J. Bot. Brit. Foreign. 47: 43. 1909. TYPE: Chittagong, unknown coll., sp. n.: 139 (holotype, BM).

Lasianthus cyanocarpus Jack var. *lucidulus* Pierre ex Pitard in Lecomte, Fl. Gen. Indochine 3: 382. 1924. SYNTYPES: Vietnam. Bien Hoa, Pierre s. n., Thorel s. n.; Condor, Harmand s. n., not seen.

Rubiaceae, Wall., Cat. 8305B. 1832.

Lasianthus oculuscati Miq. Fl. Ind. Bat. 2: 315. 1857. TYPE: from Java, not seen.

Lasianthus laevicaulis Kurz in Journ. Bot. 4: 327. 1875. TYPE: Nicobar Island, Kurz s. n. (K).

Lasianthus everettii Merr. in Philip. Journ. Sci. 3: 265. 1908. TYPE: from Philippines, not seen.

Lasianthus roxburghii Wight in Calc. J. Nat. Hist. 6: 502. 1846. TYPE: from Chittagong, not seen.

Lasianthus bracteatus Wight in Calc. J. Nat. Hist. 6: 501. 1846. TYPE: Malacca, Griffith. s. n., not seen.

Lasianthus? Wall., Cat. 8440. 1832.

Lasianthus cyanocarpus auct. non Jack: Bl. Bijdr.: 996. 1826; Benth., Fl. Hongk. 160. 1861; Kurz, For. Fl. Brit. Burma 2: 32. 1877; Hook. f., Fl. Brit. Ind. 3: 179. 1880; Hemsl. in J. Linn. Soc. (Bot.) 32: 388. 1888; Matsum. in Bot. Mag. Tokyo 15: 16. 1901; King et Gamble, Mat. Fl. Malay Penins. no. 15: 113. 1904; Pitard in Lecomte, Fl. Gen. Indochine 3: 381. 1923; Ridley, Fl. Malay Penins. 2: 153. 1923; Craib, Fl. Siam. Enum. 2 (1): 210. 1934; H. L. Li in J. Arn. Arb. 25: 430. 1944; Liu et Chao in Taiwan 10: 129. fig. 6. 1964; Wong, Tree Fl. Malay Penins. 4: 370. 1989.

Distribution: China, Philippines, Ryukyu, Malaysia, Indonesia, Indo-China, Thailand, Bangladesh, India (including Andaman and Nicobar), Myanmar.

Thailand. Chantaburi, Shimizu *et al.* 23830 (BKF), Put 2870 (BK), Kerr 6946 (BKF), 9365 (BKF); Nakawn Sritamarat, Kerr 15637 (BK), Larsen *et al.* 45879 (AAU), Puff *et al.* 930713_1/2 (AAU), Shimizu T_8199 (BKF), Puff *et al.* Sridith 930713_12 (PSU); Udawn, Kerr 8872 (BK); Surat, Kerr 11208 (BK), Smitinand 2833 (BKF), Kerr 8872 (K); Ratchasima, Beusekom *et al.* 1885 (BKF), Phengkklai *et al.* 3527 (BKF, PSU), Maxwell 74_883 (BK); Trang, Kerr 19422, Maxwell 74_399 (BK); Ranong, WN693 (BKF), Fukuoka *et al.* T_36010 (BKF), T_35492 (BKF), Shimizu *et al.* T_26235 (BKF); Chaiyaphum, Beusekom *et al.* 4358 (BKF); Puket, Shimizu T_27183 (BKF); Patthalung, Sirirugsa PS1032 (BKF); Surathani, Geesink *et al.* 7755 (BKF); Peninsular region, T. S. 5689 (BKF); Songkla, Maxwell 87251 (PSU), Larsen *et al.* 40945 (AAU), 44072 (AAU); Chantabun, Kerr 9365, 6946; Trat, Geesink *et al.* 6493 (BKF), Put 2870; Sritamarat, Kerr 15637; Nakhon Nayok (Khao Yai), Shimizu *et al.* 18121 (BKF); Phetchaburi, Larsen *et al.* 45047 (AAU); Satun, Larsen *et al.* 42716 (AAU).

Vietnam. Kon Tum, VH 2199 (AAU), VH 1631 (HN); Lam Dong, Tirvengadam *et al.* 1643 (AAU), 1638 (AAU); Cochinchina, Pierre 3296, Pierre 3256, 3256B (P), Thorel 1464 (P); Tonkin, Balanse 639 (P, K), Bon 6229 (P), Eberhardt 2879 (P); Annam, M. S. Clemens 3655, Gaudichaud 78 (P); Condor, Harmand s. n. (P).

Malaysia. Malay Peninsula, Johore, Corner s. n. (Singapore Field no. 29762) (KEP); K. K. Koh 1 (SINU), C. W. Low 13 (SINU); Kelantan, B. C. Stone 7336; Kedah, Kerr 21749 (SING), SFN 37873 (SING); Selangor, FRI 6111 (SING); Borneo, Kalimata, Mondi 130. (SING), J. S. Burley *et al.* 3327 (SING).

Indonesia. Sumatra, Simelungun, T. A. Lorzing 16434 (K); Kabandjahe, J. A. Lorzing 15915 (K); Bangka, Kosterm. 683 (K); Kutatjane, de Wilde *et al.* 14635 (L), 15864 (L); Lampua, TFB 1047 (L); Java, Batavia, Bakh & Brink 4394; W. Banton, T. Kregton 28.

Molucca. H. L. B. no. 908. 216~ 440 (L).

New Guinea. Papua, NGF 33458 (L); unknown locality, T. G. H. 11377 (L); Schram. BW 7950 (L).

Philippines. Panay, Ramos *et al.* Edano 30865 (SING); Bucas Grande Isl., Ramos *et al.* 35036 (SING); Biliran Isl., M. D. Sulit 21490 (SING); Mindanao, Ramos *et al.* 83805 (SING); Luzon, Edano 75856 (SING).

Japan. Ryukyu, M. Furuse 3393, 1915, 3016, 4255 (K).

India. Kerala, Ridsdale 242 (KEP, L); Andaman, S. Kurz s. n. (K); Nicobar, S. Kurz 26105 (K).

Bangladesh. J. D. Hooker & T. Thomson s. n., Griffithii 2917 (K).

Myanmar. Tenasserim, Helfer 2928 (K).

5. 17 *Lasianthus hispidulus* Pitard in Lecomte, Fl. Gen. Indo-Chine 3: 393. 1924. TYPE: Vietnam. Thai-nguyen, Eberhardt 3852 (lectotype, P, designated here).

Lasianthus brevidens Craib in Kew Bull. 1933: 19. 1933 et Fl. Siam. Enum. 2 (1): 208. 1934.; H. Zhu in Acta Bot. Yunnan. 20 (2): 151. 1998, syn. nov. TYPE: Thailand. Rachaburi, Prachuap. 700 m, Kerr 10833 (holotype, K; isotype, BM).

Lasianthus burzanensis Simizu in Trans. Nat. Hist. Soc. Formos. 34: 301. 1944; T. S. Liu

et J. M. Chao in *Taiwania* 10: 121, f. 3. 1964; H. Zhu in *Acta Phytotax. Sin.* 32 (1): 73. 1994. TYPE: China. Taiwan, Taipei, Suzuki 16385(TIU) (not seen).

Distribution: China (Taiwan, Hainan, Yunnan), Japan (Ryukyu), Philippines, Thailand, Vietnam.

Thailand. Puket, Kerr 16652 (BK); Pattani, Kerr 7776 (BK); Krabi, Puff et Sridith 930731_1/4 (PSU, AAU); Trang, Maxwell 75_793 (BKF, AAU); Loei, Murata *et al.* T_42895 (BKF), Shimizu T_23032 (BKF).

Vietnam. Bavi, Balansa 2657, 2658 (P); Lam Dong, Tirvengadum *et al.* 1610 (AAU); Tonkin, Ha_oi, W.T. Tseng 27091(E).

China. Yunnan: Jiangcheng, G. D. Tao 8266(HITBC).

Japan. Ryukyu, Okinawa, Furuse 4949, 13452.

Philippines. Mindanao, Elmer 13613 (E), Agusan 13613 (L); Sibulan Negros, Edano s. n. (2099_2, 2099_3) (L).

Indonesia. Sumatra, Lampung, 1300 m, M. Jacobs 8158 (L, SING).

5.18 *Lasianthus hookeri* C. B. Clarke ex Hook. f., *Fl. Brit. Ind.* 3: 184. 1880; Hutch. in *Sarg.*, *Pl. Wils.* 3: 402. 1916, pro parte, excl. specimen A. Henry 12031a; Craib in *Kew Bull.* 1911: 396. 1911; Pitard in *Lecomte, Fl. Gen. Indochine* 3: 389. 1924; Craib, *Fl. Siam. Enum.* 2: (2): 211. 1934; H. Li in C. Y. Wu, *Fl. Xizang.* 4: 450. 1985; H. Zhu in *Acta Phytotax. Sin.* 32(1): 71. 1994. TYPE: India. Khasia, J. D. Hooker & T. Thomson 679 (K).

Distribution: China, Myanmar, Thailand, and NE India.

Thailand. Payap, Kerr 1157 (BK); Chiang Mai, Larsen *et al.* 46728 (AAU), Koyama T_61221 (AAU), Winit 1370 (K, BK), Kerr 5754 (BK); Loei, Fukuoka *et al.* T. 63787 (L); Nakhon Ratchasima, Beusekom *et al.* 50 (BKF, E, AAU); Doi Inthanon, Phengklae *et al.* 7166 (BKF); Doi Soutch, Kerr 1157, 5754 (K, E, SING); Khao Yai, C. Phoenglai 50 (K); Nan, Larsen *et al.* 43673 (AAU), Tirvengadum *et al.* 2009 (in part) (AAU).

Vietnam. Kon Tum, HV 2201 (AAU).

Myanmar. Myitkyina, H. S. Mckee 6269 (K).

India. Naga hill, A. E. Meebold 7243 (K).

China. Yunnan, A. Henry 12031(K), 13570(K); Cangyuan, G. D. Tao et X. W. Li 39839 (HITBC).

5.19 *Lasianthus inaequalis* Bl. *Bijdr.* 996. 1826; King et Gamble, *Mat. Fl. Malay Penins.* no. 15: 114. 1904; Ridley, *Fl. Malay Penins.* 2: 155. 1923; Merrill in *Mitt. Inst. Bot. Hamburg.* 7: 298. 1937; Wong, *Tree Fl. Malay Penins.* 4: 370. 1989. TYPE: Java. (Salak) (not designated).

Lasianthus bractescens sensu Craib, *Fl. Siam. Enum.* 2 (1): 208. 1934, non Ridley (1918).

Lasianthus subinaequalis King et Gamble, *Mat. Fl. Malay Penins.* no. 15: 120. 1904; Ridley, *Fl. Malay Penins.* 2: 155. 1923; Craib, *Fl. Siam. Enum.* 2 (1): 218. 1934. SYNTYPES: Malay Peninsula. Perak, King's coll. 157, 3358, Wray 2588(SING), 3451(SING), Ridley 9715 (SING), Scortechini 189.

Lasianthus cyanocarpus sensu Backer et Bakhuizen, *Fl. Java* 2: 338. 1965, non Jack. (1825).

Distribution: Thailand, Malaysia, Indonesia (Sumatra, Java), Philippines.

Thailand. Pattani, Kerr 7479 (BK); Surat, Kerr 12203 (BK); Puket, Kerr 18415 (BK), 14484 (BK); Nakawn Sritamarat, Kerr 15441 (BK); Satun, Larsen *et al.* 41087 (PSU, AAU); Narathivat, C. S. S. 247 (BKF); Peninsular region, Tem 944, P. S. 133 (BKF).

Malaysia Borneo, Sabah, Nais *et al.* SNP 4945, SAN 107637 (SING); Ridley 12295 (SING); Tawao, Elmer 21423 (SING); N. Borneo, D. D. Wood 2523 (SING); Sarawak, P. 4678 (SING), Hansen 607 (SING); Kinabalu, W. L. Chew *et al.* 250 (SING). Malay Peninsula, unknown coll. 71091 (KEP), unknown coll. 39215 (KEP); Selangor, K. L. N. 1589 (SING), Gede *et al.* K. L. 437 (SINU).

Brunei. K. M. Wong 225; I. M. Said, BRUN 15892 (SING), 16517 (SING), C. Puff *et al.* 900818_1/1 (SING).

Philippines. Mindanao, Edano s. n., PHN1036 (SING); Elmer 5705 (L), PHN 96990 (KEP).

Indonesia. Sumatra, Forbes 2457 (SING), C. Boden_Kloss 14510 (SING); Siberot, A. H. B. Poll s. n. (SING). Rhio Isl., R. W. Hulleet s. n. (SING); Anambas, Steenis 1116 (SING).

5.20 Lasianthus inodorus Bl., Bijdr. 998. 1826; Backer *et al.* Bakh. f., Fl. Java 2: 339. 1965; H. Zhu in Acta Bot. Yunnan. 20 (2): 152. 1998. TYPE: Java, Blume s. n. (L 000690) (L).

Lasianthus tubferus Hook. f., Fl. Brit. India 3: 183. 1880; Craib, Fl. Siam. Enum. 2 (1): 219. 1934; Deb *et al.* in J. Econ. Taxon. Bot. 15 (2): 305. fig. 14. 1991; H. Zhu in Acta Phytotax. Sin. 32 (1): 59. 1994. TYPE: Khasia, J. D. Hooker & T. Thomson s. n. (lectotype, K, designated by Deb & Gangopadhyay in 1991).

Lasianthus poilanei Pitard in Lecomte, Fl. Gen. Indo_Chine 3: 398. 1924. TYPE: Cambodia. Mt. Elephant, 1000 m, Poilane 234 (holotype, P; isotypes, E, K).

Distribution: China (Yunnan), India (northeast part), Bangladesh (eastern part), Thailand, Cambodia, Vietnam and Indonesia (Sumatra, Java).

L. inodorus Bl. was cited in Masamune's Check_list of Bornean Plants (Masamune, 1942). I have seen the specimens from Borneo in K which are determined as *L. inodorus* Bl., but they do not agree with the type of *L. inodorus* Bl.

Thailand. Songkla, Larsen *et al.* 40945 (BKF); Krat, Put 2988; Suwann, Kerr 6063; Nakon Sanvan, Kerr 4063; Doi Angka, Garrett 384, 879 (BKF, L); Chantaburi, Beusekom *et al.* Smitinand 2202 (E); Nakhon Ratchasima (1200m alt.), Beusekom *et al.* Charoenpal 1697 (E); Loei (1300 m alt.), Beusekom *et al.* 4558 (BKF), Murata *et al.* (1200 m) 42896 (BKF), Shimizu *et al.* T_23198 (BKF), Fukuoka T_63785 (BKF, L); Udawn, Tajawa *et al.* 473, 1214 (BKF); Chieng Mai, Doi Inthanon, Phengklai *et al.* 7029 (BKF), Shigeyuki *et al.* 45322 (BKF); Chaiyaphum, Smitinand 11857 (BKF).

Indonesia. Java, Unknown locality, Jungh. 316 (K); Preanger, Steenis 12772 (L), Mt. Par-toeha, alt. 1700 m, Steenis 6985 (L); Guedeh: Mts. Geger_bintang, 1650 m, Kahi 1172 (L); Unknown locality, 1450 m, Kds. 267106 (L); SE Java, H. O. Forbes 1085 (L, K); Unknown locality, Herb. Lugd. Bat. No. 908.218.552 (L), Herb. Lugd. Bat. No. 908.220.1252 (L), Herb. Lugd. Bat. No. 913.204.462 (L), Herb. Lugd. Bat. No. 908.218.60 (L), Herb. Lugd. Bat. No. 908.218~69 (L), Herb. Lugd. Bat. No. 908.218.525 (L), Herb. Lugd. Bat. No. 908.218.47 (L); Unknown locality, Burch s. n. (L), Jungh. s. n. (L), Zollinger 4817 (P); Hoogte Bouen Zee, alt. 1500~1700 m, No. 253 (L); Cibodas, Aya Nitta 15186 (L, K); Gede,

Ridley s. n. (K), Koorders 23209B (K). Sumatra, Unknown locality, alt. 1500 m, Steenis 8328 (L).

Vietnam. Lam Dong, Tirvengadam *et al.* 1560 (AAU).

China. Yunnan: Jinghong, Mengsong, alt. 1600 m, H. Zhu et H. Wang 940401 (HITBC).

Bengladesh. Unknown locality, Griffith 2923, 2925, 2924 (K, P).

India. Naga hill, Meebold 7421(K); Khasia, Clarke 15241(K), 1785, 43722(K).

5.21 *Lasianthus kerrii* Craib in Kew Bull. 1911: 396. 1911; Hutch. in Sarg. Fl. Wils. 3: 402. 1917; Pitard in Lecomte, Fl. Gen. Indo-Chine 3: 374. 1924; Craib, Fl. Siam. Enum. 2 (1): 212. 1934; H. Zhu in Acta Phytotax. Sin. 32 (1): 59. 1994. TYPE: Thailand. Doi Sutep of Chiang Mai, A. F. G. Kerr 1501 (K).

Distribution: N. Thailand, China (S. Yunnan).

Thailand. Khonkaen, Murata *et al.* 41831(BKF), 41662 (BKF, L); Chiang Mai, Maxwell 92_334 (AAU, L).

China. Yunnan: Henry 12571 (K).

5.22 *Lasianthus kurzii* Hook. f., Fl. Brit. Ind. 3: 183. 1880; Pitard in Lecomte, Fl. Gen. Indo-Chine 3: 384. 1924; Craib, Fl. Siam. Enum. 2 (1): 212. 1934; Deb et Gang. in J. Econ. Taxon. Bot. 15 (2): 288. 1991; H. Zhu in Acta Phytotax. Sin. 32 (1): 60. 1994; et in Acta Bot. Yunnan. 20 (2): 153. 1998. TYPE: Myanmar. Chopedang, Wall. Cat. 8310 (K).

Lasianthus stercorarius sensu Kurz, Forest Fl. Burma 2: 31. 1877, non Bl. (1826).

Lasianthus hoaensis Pierre ex Pitard in Lecomte, Fl. Gen. Indo-Chine 3: 383. 1924. SYNTYPES: Cochinchina. Bien Hoa, Tri_huyen, Pierre 1316 (P; isosyntypes, E, BM, K); Bien Hoa, Gia_ray, Poilane 40832 (P and isosynotype in BM); Cambodia. Mt. Camchay, Kampot, Pierre 3267 (P).

Lasianthus kurzii Hook. f. var. *hauü* H. S. Lo in Bot. J. S. China 1993: 2. 1993. TYPE: China. Yunnan, Mengla, Wang 80524 (SCBI).

5.22a var. *kurzii*

Distribution: China (S Yunnan), India, Myanmar, Thailand, Laos, Cambodia, Vietnam and Indonesia (Sumatra, Java, new record), New Guinea (new record).

Thailand. Chiang Mai, Kerr 1122 (BK), Kerr 17404 (K), Murata *et al.* 15742 (BKF), Maxell 87_710 (BKF), Maxell 87_3040(BKF), Shimizu *et al.* T_10568 (BKF), Sorenson *et al.* 3061 (BKF); Chaiyaphum, Beusekom 4360 (BKF), Murata *et al.* T_16248 (BKF); Loei, Murata 42858(BKF), Smitinand 4953 (BKF), Beusekom *et al.* 4563 (BKF); Chantaburi, Kerr 17989 (BK), Beusekom *et al.* 2199 (BKF); Puket, Kerr 18402 (BK), 17404 (BK); Krabi, Larsen *et al.* 43311 (BKF, AAU), Chemsirivathana 1328 (BKF); Songkla, Maxwell 84_165 (BKF); Trat, Murata *et al.* 17596 (BKF), Geesink 6494; Kaokata, Kerr 18402 (K, E); Nakhon Ratchasima, Beusekon *et al.* 3272 (BKF); Pangnga, Geesink 5035 (AAU), 7374 (AAU); Maxwell 90_564; Ranong, Puff et Sridith 9307061/1 (PSU), Larsen *et al.* 33320 (AAU, L); Surat Thani, Puff *et al.* 9307031_1/2 (AAU).

Vietnam. Bien Hao, Poilane 832 (BM); S. Annam, Boden Kloss s. n. (K).

Cambodia. Koh Kong (alt. 500 m), Martin Mane 1541 (P), 417 (P).

Laos. Nape, Spire 89 (P).

Indonesia. Java, Lanjouw 50 (L); Tjibodas, Backer 22515(L); Kostermans 6299 (L); Tjigalin, Zollinger 594 (P, L), s. n. (P); Koorders. 39248 (K). Sumatra, Sururem, Royen *et al.*

6870 (L).

New Guinea. Nokee 1661 (L); Royen *et al.* 6747 (L); Papua, S Highlands, O. G. Gideon LAE 57478(L); Central Province, H. C. F. Hopkins *et al.* 455(L); Morobe, H. Streermann *et al.* 26121(L); Vogelkop Peninsula, Royen et Sleumer 6870(L).

Myanmar. Myitkyna, Belcher 641(K); Tenasserim, Keenan 855, 884 (K, E).

India. Assam, Naga Hills, Meebold 6151(K).

5. 22b var. **sylicola** H. S. Lo in Bot. Journ. South China 1993: 3. 1993; H. Zhu in Acta Bot. Yunnan. 20 (2): 153. 1998. TYPE: China. Hainan, E. Hainan Exped. 530 (SCBI).

Lasianthus kurzii Hook. f. var. *fulvus* C. Y. Wu et H. Zhu in Acta Phytotax. Sin. 32 (1):

60. 1994. TYPE: China. Yunnan, Xishuangbanna, Yunnan Exped. 59_13346 (KUN).

Distribution: China (Yunnan, Hainan), Vietnam and Thailand.

Thailand. Chiang Mai, Bunchuai 600 (BKF), Tsugaru T_61639 (AAU), Maxwell 90_1279 (AAU) Phengklai *et al.* 6782 (BKF); Khonkaen, Murata *et al.* 41829 (BKF), T_41672 (BKF); Loei, Murata *et al.* 42858 (BKF); Chaiyaphum, Beusekom *et al.* 4452 (BKF, P); Ratchasima, Murata *et al.* T_16350 (BKF), T_16252 (BKF); Trat, Murata *et al.* T_17419 (BKF), Smitinand 1413 (L); Nakhon Ratchasima, Beusekom et Charoenpal 1822 (E); Khao Yai, Murata *et al.* 16252(BKF); Prachinburi, Larsen *et al.* 340 (BKF).

Vietnam. Lam Dong, Tirvengadum *et al.* 1636 (AAU).

China. Hainan: Vegetation Exped. 820(SCBI).

5. 22c var. **microphyllus** (Pitard) H. Zhu in Acta Bot. Yunnan. 20 (2): 153. 1998.

L. hoaensis Pierre ex Pitard var. *microphyllus* Pitard in Lecomte, Fl. Gen. Indo_Chine 3:

383. 1924. TYPE: Cambodia. Mt. Elephant, Poilane 233 (holotype, P; isotypes, E, K).

Distribution: Cambodia; Thailand (new record).

Thailand. Loei, Shimizu *et al.* T_23077 (BKF); Narathiwat, Prayad 1652 (BK).

5. 22d var. **ovatifolius** H. Zhu, var. nov. TYPE: Thailand. Chantarubri, Khao Sa Bap, evergreen forest, K. Larsen *et al.* 44289 (holotype, AAU).

A typo foliis minoribus ovatis basi rotundatis, bracteis minoribus differt.

5. 23 **Lasianthus lancifolius** Hook. f., Fl. Brit. Ind. 3: 187. 1880; Deb et Gang. in J. Econ. Tax. Bot. 15 (2): 289. 1991; H. Zhu in Acta Phytotax. Sin. 32 (1): 71. 1994. TYPE: India. Khasia, J. D. Hooker & T. Thomson, *Mephitidia* 12 (K).

Distribution: China, N Vietnam, NE Thailand (new record), NE India, Bhutan and E Bangladesh.

Thailand. Loei, Murata *et al.* 42894 (BKF), Shimizu *et al.* 8860 (BKF), Takahashi *et al.* T_60559 (BKF), Fukuoka T_63787 (BKF).

Vietnam. Vinh Phu, Tirvengadum *et al.* 3320 (AAU).

E. Bangladesh. Griffith. s. n. (E. Ind. Comp. 2916) (K).

5. 24 **Lasianthus lineolatus** Craib in Kew Bull. 1933: 22. 1933 et. Fl. Siam. Enum. 2 (1): 212. 1934. TYPE: Thailand. Surat, Kerr 13284 (holotype, K; isotype, BK).

Distribution: Endemic to Thailand.

5. 25 **Lasianthus longipedunculatus** R. N. Parker in Kew Bull. 1925: 430. 1925; Craib, Fl. Siam. Enum. 2 (1): 212. 1934. TYPE: Burma. Tavoy, Parker 2208 (K).

Lasianthus glaberrimus Ridl. in Journ. Fed. Mal. States Mus. 10: 98. 1920. TYPE: Thailand. Tatan, Ridley 7033 (SING).

Distribution: Myanmar, Thailand and Vietnam (new record) .

Thailand. Puket, Kerr 16580 (BK), 16329 (BK), 12166 (BK); Ranong, Fukuoka *et al.* T_35941, 35911 (BKF, AAU), Geesink *et al.* 7511 (BKF) .

Vietnam. Unknown coll. s. n. (HN) .

5.26 *Lasianthus lucidus* Bl., Bijdr. 997. 1826; Miq., Fl. Ind. Bat. 2: 319. 1857; Kurz, Forest Fl. Burma 2: 30. 1877; Hook. f., Fl. Brit. India. 3: 184. 1880; Pitard in Lecomte, Fl. Gen. Indo_Chine 3: 385. 1924; Craib, Fl. Siam. Enum. 2 (1): 214. 1934; Bakh. f. in Backer & Bakh. f., Fl. Java 2: 342. 1965; Deb et Gang. in J. Econ. Taxon. Bot. 15 (2): 290. fig. 6. 1991, excl. var. *caudisepalus* Deb et Gang; H. Zhu in Acta Phytotax. Sin. 32 (1): 63. 1994; H. Zhu in Acta Bot. Yunnan. 20 (2): 153. 1998. — *Mephitidia lucida* (Bl.) DC., Prodr. 4: 453. 1830. TYPE: Java. Blume s. n. (L 000697) (L) .

5.26a var. *lucidus*

Distribution: China, Thailand, N. Vietnam, Malaysia, Indonesia, New Guinea, Philippines, Myanmar and NE India.

Thailand. Chantabun, Kerr 9624 (BK); Chiang Mai, Larsen *et al.* 46733 (AAU), Maxwell 90_418 (E), Tagawa *et al.* 2859 (BKF), Murata *et al.* 15785 (BKF), 15294 (BKF), V. N. 1108 (BKF, AAU), Lakshnakaral 1479 (BK); Udawn, Tagawa *et al.* T_1597 (K); Doi Inthanon, Pooma 611 (BKF); Doi Angakette, Hosseus 353 (K) .

China. Hainan: alt. 1600 m, Fu Guo'ai 7474 (SCBI), alt. 1360 m, S. H. Chun 10783 (SCBI). Yunnan: Menglian, alt. 1450 m, G. D. Tao *et al.* 39666 (HITBC); E_shan, alt. 1680 m, E_shan Exped. 577 (KUN); Luchun, alt. 2300 m, D. D. Tao 839, 319 (KUN) .

Vietnam. Ninh_binh, Bon 4214 (P) and s. n. (P) .

India. Assam, Cox et Hutchison 392 (K, E); Khasia, Clare 42484A, 42484B (K); Naga hill, Meebold 7201 (K) .

Indonesia. Java, Mt. Salak, Koorders 36715B; Jibodas, Gedeh Volcano, 1600~ 1700 m, Fosberg 44589 (K, L); Steenis 12440 (K); alt. 1400 m, unknown coll. s. n. (P); Preanger, V. Schihhner 2660 (L). Sulawesi, Sawito, Enrekang, 1800 m, Neth. Ind. For. Ser. No. 113/V2 (L); Kenado, 1600 m, S. Bloemb. No. 3927 (L). Flores, alt. 1600 m, Verheijen 3015 (L); Veldkamp 7025 (L). Molukken, L. F. Fox. 421 (L) .

New Guinea. alt. 1900 m, Gjellerup 1228 (L) .

Philippines. Mt. Isarog, Camarines, Ramos 22064. Luzon, Tayabas, Elmer 9152 (E). Mindanao, Davao, Edano 1477 (SING), 995 (SING) .

5.26b var. *inconspicuus* (Hook. f.) H. Zhu in Acta Bot. Yunnan. 20 (2): 154. 1998. — *Lasianthus inconspicuus* Hook. f., Fl. Brit. Ind. 3: 187. 1880; Hutch. in Sarg., Pl. Wils. 3: 402. 1916, excl. var. *hirtus* Hutch. TYPE: Bangladesh. Silhet, Wall. Cat. 8313 (K) .

This variety differs from the typical one by having relatively large leaves and the calyx lobes usually shorter than tube.

Distribution: NE India, Bangladesh, China (Yunnan), N Thailand (new record) .

Thailand. Chiang Mai, Doi Inthanon, alt. 900~ 1800 m, Murata *et al.* 15785 (BKF); Udawn, alt. 1200 m, Tagawa *et al.* T. 472 (L) .

China. Yunnan: Henry 12608, 12608A (K) .

Bengladesh. Griffith 2929 (P) .

5.26c var. *flavo-hirsutus* H. Zhu, var. nov.

A typo ramulis et petiolis adpresse flavo-hirsutis differt.

Thailand. Chiang Mai, Doi Inthanon, 1900~ 2025 m, 1994_01_14, N. Fukuoka T_62165 (holotype, BKF).

5. 27 *Lasianthus maculatus* Craib in Kew Bull. 1933: 22. 1933 et Fl. Siam. Enum. 2 (1): 214. 1934. TYPE: Thailand. Chantaburi, Kerr 6817 (holotype, K; isotype, BK).

Distribution: Endemic to Thailand.

5. 28 *Lasianthus maingayi* Hook. f., Fl. Brit. Ind. 3: 188. 1880; King et Gamble, Mat. Fl. Malay Penins. no. 15: 132. 1904; Ridley, Fl. Malay Penins. 2: 160. 1923; Craib, Fl. Siam. Enum. 2 (1): 213. 1934; Wong, Tree Fl. Malay Penins. 4: 369. 1989. TYPE: Malacca. Maingay s. n. (Kew Distrib. 871) (K).

Lasianthus caloneurus K. Schum. in Bot. Tidsskr. 24: 339. 1902; Pitard in Lecomte, Fl. Gen. Indo-Chine 3: 397. 1924. TYPE: Thailand. Chantaburi, Schmidt 683 (holotype, C).

Lasianthus flavicans King et Gamble, Mat. Fl. Malay Penins. no. 15: 116. 1904. SYNTYPES: Singapore. Ridley 4394, 6927. Malay Peninsula. Perak, Scortechini s. n.; Pahang, Ridley 2223, King' coll. 10974; not seen.

Distribution: Malay Peninsula, Thailand.

Thailand. Surat, Kerr 12184 (BK), Sakol 1233 (BK), Niyomodham 1271(K); Phuket, Kerr 18615 (BK), 14436 (BK); Krabi, Larsen *et al.* 43312 (AAU); Songkla, Kerr 15841 (BK), Maxwell 86_643 (PSU); Trat, Murata *et al.* T_17440(K); Ranong, Fukuoka *et al.* T_35955 (BKF), T_35940 (BKF), Puff et Sridith 930707_1/4 (PSU, AAU); Peninsular region PS 150 (BKF), Smitinand 1021 (BKF), Anan 45 (BKF); Narathiwat, Larsen *et al.* 42218 (AAU), C. S. S. 260 (BKF), Nitrasisirak 215 (BKF); Nakhon Sithimarath, Maxwell 85_1112 (BKF), Larsen *et al.* 44130 (AAU), Suvarnakoses 1867 (BKF); Patthalung, Larsen *et al.* 41509 (AAU).

Malaysia. Malay Peninsula, Johore, Corner s. n. (Singapore Field no. 37697) (KEP), Perak, FRI39435 (KEP).

Indonesia. N Sumatra, Wiriadinata et Maskuri 617 (AAU); Kutatjane (N Sumatra), de Wilde *et al.* 14604 (L); E Coast, Asahan, R. S. Boeea 6173(SING); Anamba Isl., Henderson 20260(SING), W. Meijer 6767(L); Java, N. Wirawan 70(SING); W Java, Jaman Jaya (6°12' S, 105°30' N), *Pometia* forest, McDonald *et al.* 3441(SING).

5. 29 *Lasianthus malaccensis* King et Gamble, Mat. Fl. Malay Penins. no. 15: 124. 1904; Ridley, Fl. Malay Penins. 2: 165. 1923; Wong, Tree Fl. Mal. Penins. 4: 368. 1989. TYPE: Malacca, Ridley 3219 (SING).

Lasianthus flavinervius auct non Ridley: Craib, Fl. Siam. Enum. 2 (1): 211. 1934.

Distribution: S Thailand, Malaysia (Malay Peninsula).

Thailand. Nakawn Sritimarath, Kerr 15532 (BK), Smith 750 (BK).

Malaysia. Malay Peninsula, Pahang, Corner s. n. (L), Stone 7190 (L), R. E. Holttum 20624(SING); Kelantan, Symington 37790 (KEP), 37685(SING); Pahang, Haniff s. n. SFN 7882(SING), Haniff 8029(SING), Ridley 16068(SING), Wray *et al.* 5438(SING), 5503(SING), 5438(SING), MS 1435(SING); Johore, FRI 12392(SING); Mt. Ophir, Mohd Shah *et al.* 3585(SING), MS 2188(SING, KEP), Samsuri *et al.* SA 707 (SING); Malacca, Ridley s. n. (SING); Selangor, unknown coll. 12078(SING), Ridley 15666(SING); Trengganu, SFN 33359(SING).

5. 30 *Lasianthus marginatus* Craib in Kew Bull. 1933: 23. 1933 et Fl. Siam. Enum. 2 (1):

215. 1934. TYPE: Thailand. Chantaburi, Kerr 9551 (holotype, K; isotype, BK).

Distribution: Endemic to Thailand.

Thailand. Chantaburi, Kerr 17862 (BK).

5.31 *Lasianthus micranthus* Hook. f., Fl. Brit. Ind. 3: 190. 1880; Hutch. in Sarg., Pl. Wils. 3: 402. 1916; H. Li in C. Y. Wu, Fl. Xizang. 4: 451. 1985; H. Zhu in Acta Phytotax. Sin. 32 (1): 74. 1994. — *Litosanthes micranthus* (Hook. f.) Deb et Gang. in Candollea 44: 220. 1989. TYPE: India. Upper Assam, Griffith s. n. (E. Ind. Comp. no. 2930) (K).

Lasianthus microstachys Hayata, Icon. Pl. Fomos. 9: 63. 1920. TYPE: Taiwan, Hayata 24331 (isotype, SCBI).

Lasianthus balansae (Drake) Pitard in Lecomte, Fl. Gen. Indo-Chine 3: 396. 1924. — *Mephitidia balansae* Drake in Morot Journ. Bot. 9: 238. 1895. SYNTYPES: Vietnam. Tonkin, Balansa 659 (Dong_Dang), 2652, 2653 (Bavi), 2651 (Phuong_Lam) (P; isosyntypes, K).

Lasianthus octonervius Hand. Mazz. in Sinensia 5: 14. 1934. TYPE: China. Guangxi (Kwangsì), R. C. Ching 7382 (SCBI).

Lasianthus seikomontanus Yam. in Journ. Soc. Trop. Agr. 7: 148. 1935. TYPE: Yamamoto 2468, not seen.

Distribution: China, N Vietman, NE India, Thailand (New record).

Thailand. Chiang Mai, Doi Inthanon, alt. 1900~ 2595 m, Tagawa *et al.* 2859 (BKF).

China. Yunnan: Henry 13670; Guangdong: Mt. Dinghu, H. Zhu 90_6_2, 90_6_8 (HIT-BC), G. L. Shi 107 (SCBI); Yuanchun, L. Liu *et al.* 331 (SCBI), L. Liu et G. C. Zhang 0091 (SCBI).

Vietnam. Tonkin, Balansa 2652, 659, 2651 (K); Phu tho, Chevalieri 32153 (P).

5.32 *Lasianthus oligoneurus* K. Schum. in Bot. Tidsskr. 24: 340. 1902; Pitard in Lecomte, Fl. Gen. Indo-Chine 3: 397. 1924; Craib, Fl. Siam. 2 (1): 215. 1934. TYPE: Thailand. Chantaburi, Schmidt 390 (holotype, C).

Distribution: Endemic to Thailand.

From original description, this species has trilocular drupe. I saw a photo of the type specimen from C, in which no fruit was seen.

5.33 *Lasianthus parviflorus* H. Zhu, sp. nov. Fig. 2.

Proximus *L. rabilii* Craib, sed ramulis dense hirsutis, foliis obovato-rhombeis, floribus minoribus, calycibus c. 2 mm longis, fructibus 4 mm longis differt. A *L. verticillato* (Lour.) Merr. ramulis dense hirsutis, foliis obovato-rhombeis, floribus minoribus differt.

Frutex; ramuli hirsuti. Folia obovato-rhombea, apice acuminata vel breviter caudata, basi cuneata, 12~ 16 cm longa, 3.5~ 5.5 cm lata, subcoriacea, supra glabra subtus ad costam nervos nervulosque appresse hirsuta, costa supra impressa, subtus prominente, nervis lateralibus utrinque 8 utrinque prominentibus, nervulis parallelis utrinque conspicuis; petioli usque ad 5 mm longi, dense hirsuti; stipulae c. 4 mm longae hirsutae. Inflorescentia axillaris, sessilis, parva, bracteis inconspicuis. Flores parvi, sessiles; calyces hirsuti, tubo brevissimo, lobis 5 lanceolatis tubo longioribus, 1.5 mm longis. Fructus c. 4 mm longi.

Thailand. Krabi, Bang Kram Forest Reserve, alt. 75 m, K. Larsen *et al.* 43377 (holotype, AAU).

L. parviflorus is somewhat similar to *L. rabilii* and *L. verticillatus*. It differs from *L. rabilii* by having densely hirsute branches, obovate rhombic leaves, smaller flowers with calyx only 2

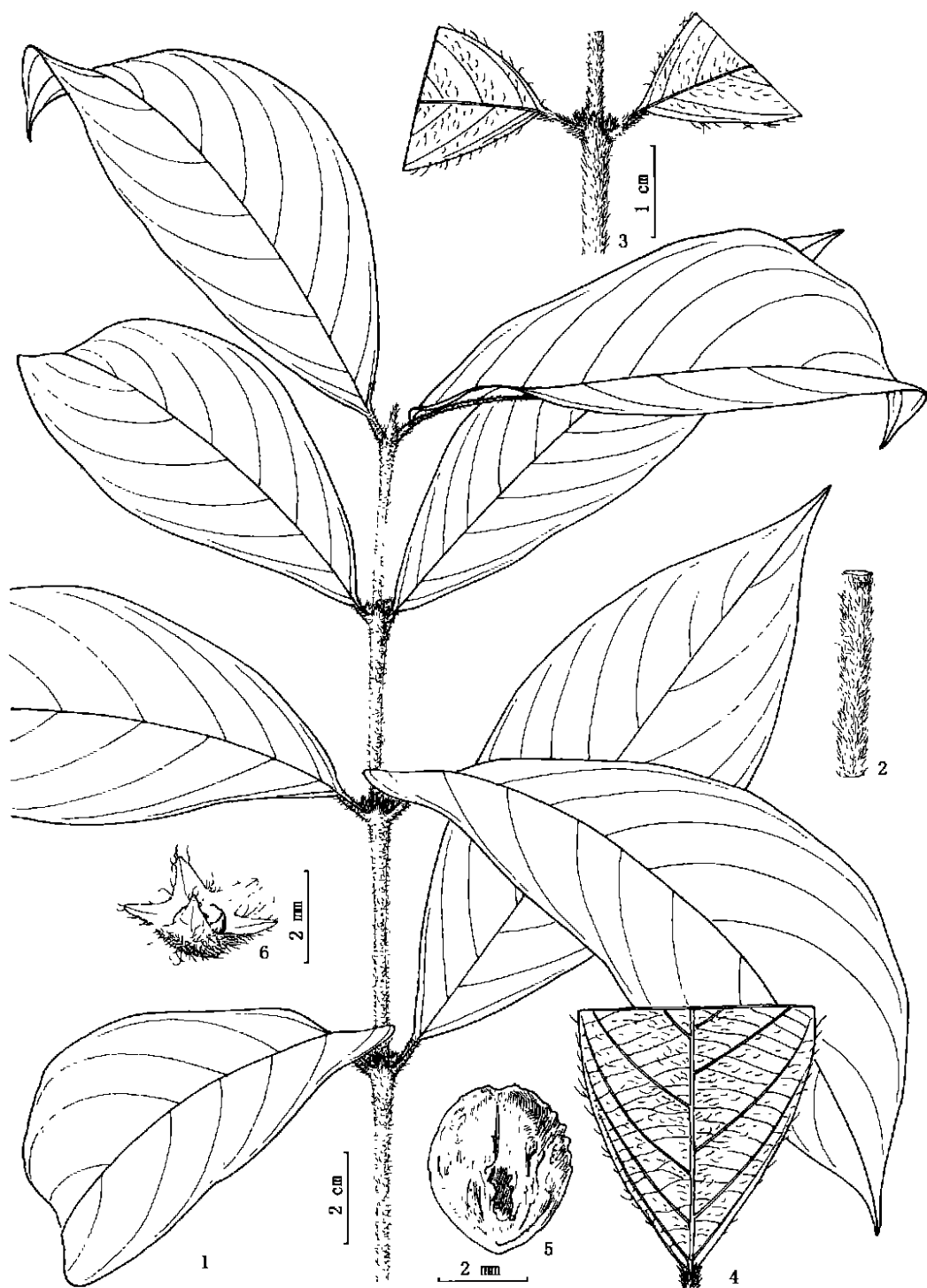


Fig. 2 *Lasianthus parviflorus* H. Zhu

1. Flowering branch; 2. Enlarged branch; 3. Enlarged node showing stipule and axillary inflorescence; 4. Enlarged part of the lower surface of leaf; 5. Pyrene (adaxial view); 6. An enlarged flower without corolla (Drawn by X. L. Wu).

mm long and smaller drupes. It differs from *L. verticillatus* by having also densely hirsute branches, obovate-rhombic leaves and smaller flowers.

5.34 *Lasianthus perakensis* King et Gamble in Journ. As. Soc. Beng. 73: 126 (Mat. Fl. Malay Penins. no. 15: 126) 1904; Ridley, Fl. Malay Penins. 2: 160. 1923; Wong, Tree Fl. Malay Penins. 4: 372. 1989, excl. syn. *L. flavinervius* Ridl. SYNTYPES: Malay Peninsula, King's coll. 682 (K), 2438, 2838, 10210(K); Wray 4128(SING).

Thailand. Nakhon Srithamathat, Larsen *et al.* 45889 (AAU).

Malaysia. Malay Peninsula, Kedah, FRI 14166 (KEP); Selangor, FRI 0343(SING); Perak, K. F.N. 99775(SING); Kelantan, FRI 7159(SING).

5.35 *Lasianthus pilosus* Wight, in Calc. Journ. Nat. Hist. 6: 506. 1846; Hook. f., Fl. Brit. Ind. 3: 182. 1880; King et Gamble, Mat. Fl. Malay Penins. No. 15: 115. 1904; Ridley, Fl. Malay Penins. 2: 157. 1923; Wong, Tree Fl. Malay Penins. 4: 370. 1989. TYPE: Malacca, Griffith s. n. (Kew Distrib. 2918, K).

5.35a var. *pilosus*

Distribution: S Thailand (new record), Malay Peninsula.

Thailand. Surathani, Puff et Sridith 930703_1/4 (PSU); Chumphon, Larsen *et al.* 43154 (PSU, AAU); Ranong, Sino-Thai Exped. 1182 (HITBC); Puff et Sridith 930707_1/6 (PSU, AAU).

Malaysia. Malay Peninsula, Kemaman, Corner s. n. (Singapore Field no. 30289) (KEP); Selangor, FRI 14793(SING), KFN 104440(SING).

5.35b var. *angustifolius* Hook. f., Fl. Brit. Ind. 3: 182. 1880; Craib, Fl. Siam. Enum. 2 (1): 215. 1934. TYPE: Myanmar. Tenasserim, Mergui, Griffith s. n. (K).

Distribution: Myanmar, Thailand, Malaysia (Malay Peninsula).

Thailand. Ranong, Shimizu T_26219 (BKF), Fukuoka T_36015 (BKF), Shimizu *et al.* T_26200 (BKF), 26224 (BKF); Surat, Thw *et al.* 51 (BKF), Kerr 11947(BK); Phuket, Kerr 17408(BK), 16700(BK), 18401 (BK).

Differing from typical variety by having leaves relatively narrow, 10 to 12.5 cm long and 2.5~3 cm broad.

5.36 *Lasianthus politus* Ridley in J. Roy. As. Soc. S. Br. 79: 85. 1918 et Fl. Malay Penins. 2: 158. 1923; Wong, Tree Fl. Malay Penins. 4: 372. 1989. TYPE: Malay Peninsula, Selangor, Ridley 15690 (K).

5.36a var. *politus*

Distribution: Thailand (new record); Malaysia (Malay Peninsula).

Thailand. Loei, Murata *et al.* T_42857 (BKF), Beusekom *et al.* 4562 (BKF).

Malaysia. Malay Peninsula, Fraser Hills, Unknown coll. 22570 (KEP).

5.36b var. *insularis* Craib, Fl. Siam. Enum. 2 (1): 216. 1934. TYPE: Thailand. Surat, Put 1195 (K).

Endemic to Thailand.

Differing from the typical variety by having oblong-elliptic leaves with subrounded bases and conspicuous bracts.

5.37 *Lasianthus puberulus* Craib in Kew Bull. 1933: 24. 1933 et Fl. Siam. Enum. 2 (1): 216. 1934. TYPE: Thailand. Chantaburi, Kerr 17735 (holotype, K; isotype, BK).

Distribution: Endemic to Thailand.

Thailand. Chantaburi, Kerr 17735a (BK), Put 2878 (BK).

5.38 *Lasianthus rabilii* Craib in Kew Bull. 1933: 24. 1933 et Fl. Siam. Enum. 2(1): 216. 1934. TYPE: Thailand. Puket, Rabil 364 (holotype, K; isotype, BK).

Distribution: Endemic to Thailand.

Similar to *L. kurzii* but different from it by having smaller bracts and stipules as well as leaves.

5.39 *Lasianthus repoeuensis* Pierre ex Pitard in Lecomte, Fl. Gen. Indo_Chine 3: 387. 1924. TYPE: Cambodia. Thepong, Knang_krepeuh Mts., Pierre 1257 (P).

Lasianthus penicillatus Craib in Kew Bull. 1933: 23. 1933 et Fl. Siam. Enum. 2(1): 215. 1934, syn. nov. TYPE: Thailand. Puket, Kerr 18827 (holotype, K; isotype, BK).

Distribution: Thailand, S Vietnam.

Thailand. Surat, Kerr 12462 (BK).

Vietnam. Lam Dong, Tirvengadam *et al.* 1556 (AAU).

5.40 *Lasianthus rhinocerotis* Bl. Bijdr. 996. 1826; Ridley, Fl. Malay Penins. 2: 154. 1923; Bakh.f. in Backer et Bakh.f., Fl. Java 2: 338. 1965; H. Zhu in Acta Bot. Yunnan. 20(2): 154. 1998. TYPE: Java, Blume s.n. (holotype, L).

5.40a subsp. *rhinocerotis*

Distribution: Thailand (new record), Malaysia (Peninsula and Borneo), Indonesia (Java, Sumatra).

Thailand. Nakhon Srithamathat, Larsen *et al.* 45970 (AAU).

Malaysia. Malay Peninsula, Pahang, T. & P. 992 (K), Klachenberg & Lundin 800 (L), K. 8015(L); Malacca, Shimizu *et al.* 13352(K, L), 13683 (L); Univ. Mal. no. 8090 (K), King 3209 (L); Camenon highlands, F M S no. 27033 (KEP); Kasim *et al.* 01708 (L); Perak, FRI 12904 (L); Johore, M. Noor *et al.* MN48 (L); Gunung Murud, Rena *et al.* S. 60344 (L). Borneo, Sabah, Beaman 7666 (L), 9337(L), 10633(L), 10788(L); Clemens 31016 (L).

Indonesia. Java, Horsfield Rub. 48 (K); Preanger, unknown coll. 616 (L); West Java, Pangrango, Meijer 431 (L). Sumatra, Atjeh, Wilde *et al.* 14760 (K); Padang, Beccari 409, 165(K, L); Ridley s.n. (K); Asahan (E Coast), Rahmat Si Boeca 10729 (K, L), Bartlett. 162758(L), 10190 (L), 10185(L); Loring 4933(L); Bum 3946 (L), 5483(L); Gajolanden, Steenis 9519 (L). Sulawesi, Menado, Bloembergen 3937 (L); Yusut *et al.* 68 (L).

5.40b subsp. *xishuangbannaensis* H. Zhu et H. Wang in Acta Phytotax. Sin. 38(3): 282. 2000. TYPE: China. Yunnan, Jinghong, H. Zhu et H. Wang 98_11_01 (holotype, HITBC).

Distribution: Thailand, China (Yunnan).

Thailand. Central Thailand, H. Zhu 91_5_12_01(HITBC); Nan, Tirvengadam *et al.* 2013 (AAU).

5.41 *Lasianthus ridleyi* King & Gamble in Journ. As. Soc. Beng. 73: 115 (Mat. Fl. Malay Penins. no. 15: 115). 1904; Ridley, Fl. Malay Penins. 2: 154. 1923; Craib, Fl. Siam. Enum. 2(1): 216. 1934; Wong, Tree Fl. Malay Penins. 4: 371. 1989. TYPE: Singapore. Ridley 3620a, not seen.

Lasianthus maingayi Hook. f. var. *hirta* Ridley, Fl. Malay Penins. 2: 160. 1923. TYPE: Malay Peninsula, Negri Sembilan, Ridley s.n. (K).

Distribution: Thailand, Malaysia (Malay Peninsula) and Indonesia (Sumatra).

Thailand. Puket, Kerr 11772 (BK); Satun, Larsen *et al.* 41106 (PSU, AAU); Songkla,

Larsen *et al.* 46088 (AAU).

Malaysia. Malay Peninsula, Perak, FRI 6091 (KEP); Johore, L. Tevuga 984(SING); Selangor, FRI4437(SING); Pahang, S. C. Lee *et al.* s. n. (SINU).

Singapore. I. Enoch 1399(SING); SING 0002103(SING).

Indonesia. Sumatra, Bangka, Kost. et Anta 186 (L); Korthals s. n. (L); H. L. B. No. 908. 217_937, 908. 218_328 (L).

5. 42 *Lasianthus sarmentosus* Craib in Kew Bull. 1933: 25. 1933 et Fl. Siam. Enum. 2 (1): 216. 1934. TYPE: Thailand. Chantaburi, Kerr 9614 (holotype, K; isotype, L).

Endemic to Thailand.

5. 43 *Lasianthus saxorum* Craib in Kew Bull. 1933: 25. 1933 et Fl. Siam. 2 (1): 216. 1934. TYPE: Thailand. Udawn, Kerr 20066 (holotype, K; isotype, BK).

Distribution: Endemic to Thailand.

Thailand. Loei, Murata *et al.* T_42685 (BKF), Mitsuta T_42216 (BKF), Shimizu T_23181, T_8859 (BKF), Beusekom *et al.* 4525, 4564 (BKF), Smitinand 4925 (BKF), Fukuoka T_63765, 63750 (BKF), Ch. Charoenphol *et al.* 4813, 4706 (BKF), Takahashi *et al.* T_60558 (BKF); Udawn, Tagawa T_792, T_471 (BKF).

Lasianthus saxorum is similar to *L. fordii* but different by having smaller leaves with caudate apex and appressed pubescence on branches, calyx and leaf nerves beneath. It differs from *L. lucidus* by having appressed pubescence on branches, nerves and flowers, and shorter calyx lobes.

5. 44 *Lasianthus schmidtii* K. Schum. in Bot. Tidsskr. 24: 340. 1902; Pitard in Lecomte, Fl. Gen. Indo_Chine 3: 398. 1924; Craib, Fl. Siam. Enum. 2 (1): 217. 1934. TYPE: Thailand. Chantaburi, Schmidt 667b (holotype, C).

Distribution: Endemic to Thailand.

5. 45 *Lasianthus sikkimensis* Hook. f., Fl. Brit. Ind. 3: 180. 1880; Deb et Gang. in J. Econ. Taxon. Bot. 15 (2): 297. 1991; H. Zhu in Acta Phytotax. Sin. 32 (1): 60. 1994; H. Zhu in Acta Bot. Yunnan. 20 (2): 155. 1998. TYPE: Sikkim_Himalaya, J. D. Hooker & T. Thomson no. 11 (K).

Lasianthus baviensis (Drake) Pitard in Lecomte, Fl. Gen. Indo_Chine 3: 380. 1924. TYPE: Vietnam, Tonkin, Tu_phap, Balansa 2655 (holotype, P; isotype, K).

Distribution: China, N Vietnam, Thailand, NE India, Sikkim and Bangladesh, the Philippines (new record).

Thailand. Nan, Larsen *et al.* 44576 (AAU).

Vietnam. Vinh Phu, Tirvengadum *et al.* 3293, 3316, 3314 (AAU)

China. Xizang: Mêdog, H. Sun *et al.* ETM_1766, 1286, 1538 (KUN).

India. Khasia, Clarke 44465A; Assam, Watt 11915 (E).

Philippines. Mindanao, Mt. Candoon, M. Ramos et Edano s. n. (Bureau. Sci. No. 38795 (L)).

5. 46 *Lasianthus stipularis* Bl, Bijdr. 997. 1826; Kurz, Forest Fl. Burma 2: 30. 1877; Hook. f., Fl. Brit. Ind. 3: 179. 1880; King et Gamble, Mat. Fl. Malay Penins. no. 15: 112. 1904; Ridley, Fl. Malay Penins. 2: 152. 1923; Merrill in Univ. Calif. Publ. Bot. 15. 292. 1929; Craib, Fl. Siam. Enum. 2 (1): 217. 1934; Wong, Tree Fl. Malay Penins. 4: 368. 1989. TYPE: Java, Blume s. n. (L 0000708) (L).

Distribution: Myanmar, Thailand, Malaysia, Indonesia.

Thailand. Surat, Kerr 12201(BK); Puket, Kerr 16317(BK); Krabi, Larsen *et al.* 43424 (AAU); Nakhon Sritamarat, Smith 591(BK), Kerr 15880(BK), Maxwell 85_1113 (PSU); Krabi, Chiayupir 63 (BK); Ranong, Fukuoka *et al.* T_35953(BKF), Geesink *et al.* 7573(BKF), Puff et Sridith 930706_1/4 (PSU, AAU); Narathivat, C. S. S. 194(BKF); Suratthani, Larsen *et al.* 40898 (PSU, AAU).

Malaysia. Malay Peninsula, Selangor, Ulu Gombak, Carrick 1456 (L).

Indonesia. Sumatra, N. Lorzing 14609 (L); SE Sumatra, Muara Enim, P. Buwalda 7590 (L).

5.47 *Lasianthus subaureus* Craib in Kew Bull. 1933: 27. 1933 et Fl. Siam. Enum. 2 (1): 218. 1934. TYPE: Thailand. Puket, Kerr 14117 (holotype, K; isotype, BK).

Distribution: Thailand, Myanmar, Malaysia.

Thailand. Surat, Put 772, 1227 (BK); Songkla, Kerr 15930 (BK).

Malaysia. Malay Peninsula, Selangor, FRI 18007(SING); Malacca, Ridley s. n. (SING), Ridley 3218(SING); Lang Kawi Islands, H. C. Robinson 6292(SING).

5.48 *Lasianthus subcalvus* Craib in Kew Bull. 1933: 27. 1933 et Fl. Siam. Enum. 2 (1): 218. 1934. TYPE: Thailand. Puket, Kerr 19421 (K).

Distribution: Endemic to Thailand.

5.49 *Lasianthus tetragonus* H. Zhu, sp. nov. Fig. 3.

Proximus *L. foxworthyano* Craib, sed ramulis, stipulis, costa nervisque subtus minute puberulis, petiolis longioribus, nervulis utrinque dilutis, bracteis minoribus differt. A *L. fordii* Hance stipulis majoribus, bracteis minutis, fructibus conspicue tetragonis differt.

Frutex circa 1 m altus; ramuli adpresse breviter puberuli. Folia elliptica vel oblongo_elliptica, apice acuminata, summo apice aristata, basi cuneata vel acuta, 8.5~ 11 cm longa, 3~ 4 cm lata, sicca supra fusca glabra, subtus cinereo_viridia, ad costam nervosque adpresse puberula, costa supra impressa, subtus prominente, nervis lateralibus utrinque 6~ 7 supra impressa subtus prominentibus, nervulis subparallelis utrinque dilutis; petioli usque ad 1 cm longi adpresse puberuli; stipulae triangulo_lanceolatae, 2.5~ 3 mm longae adpresse puberulae. Inflorescentia axillaris sessilis, bracteis minutis. Fructus 4 mm longi minute puberuli, conspicue tetragoni.

Thailand. Pattani, Sai Khao National Park, alt. 250~ 400 m, 1993_07_16, Puff et Sridith 930716_1/3 (holotype, AAU).

L. tetragonus differs from *L. foxworthyanus* by having puberulous branches and stipules, leaves with longer petioles and puberulous costa and nerves beneath, and smaller bracts. It differs from *L. fordii* by having minute bracts, bigger stipules and drupes with 4 pyrenes.

5.50 *Lasianthus tomentosus* Bl., Bijdr. 97. 1826; Ridley, Fl. Malay Penins. 2: 161. 1923; Craib, Fl. Siam. Enum. 2 (2): 219. 1934; Backer et Bakh. f., Fl. Java 2: 343. 1965; H. Zhu in Acta Bot. Yunnan. 20 (2): 155. 1998. TYPE: from Java (not designated).

Lasianthus lei Merr. et Metc. ex H. S. Lo in Bot. J. S. China 1993: 12. 1993. TYPE: China. Hainan, C. I. Lei 1025 (holotype SCBI; isotypes, K, P, SYS).

Lasianthus cupreus sensu Pitard in Lecomte, Fl. Gen. Indo_Chine 3: 392, pro parte, quoad specimen Gaudichaud 229 which does not agree with the description of *L. cupreus* Pierre in having dense brown pubescence on branches and leaves beneath, but agrees with *L. tomentosus* Bl. instead.

Distribution: China, Thailand, Vietnam, Malay Peninsula, Singapore and Indonesia (Java,

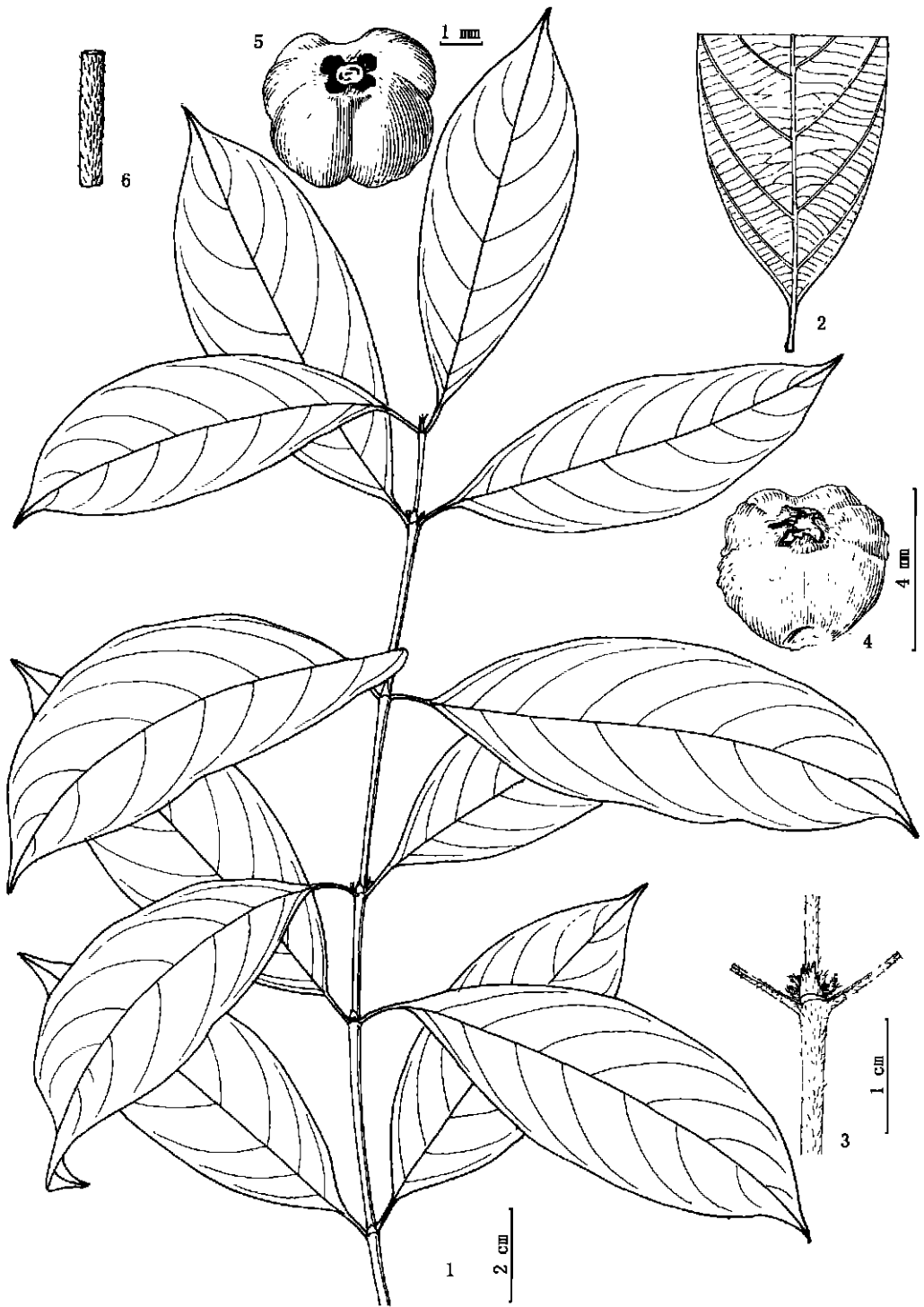


Fig. 3 *Lasianthus tetragonus* H. Zhu

1. Branch; 2. Enlarged part of the lower surface of leaf; 3. Enlarged node showing stipule and axillary inflorescence; 4 & 5. Fruit; 6. Enlarged branch (Drawn by X. L. Wu).

Sumatra).

Thailand. Prachuap, Shimizu *et al.* T_7754 (BKF, L), T_14708 (BKF); Chunmpan, Kerr 11605 (K); Larsen 9157 (BKF); Pangnga, Shimizu *et al.* T_14714 (L).

Vietnam. Cochichina, Gaudichaud 229 (P).

Malaysia. Malay Peninsula, Pahang, SFN 18478 (SING).

Singapore. Ridley 1647 (K).

Indonesia. Borneo, Fukirin 402 (L). Java, T. Horsfield 50 (K); West Java, Tjibodas, Kds. no. 32018B (K); Eiland Bawean, Hoogerwerf 218a (L); Unknown coll., H. L. B. No. 908. 218~ 33 (L). Sumatra, Teysmann 19401 (L).

5.51 *Lasianthus trichophlebus* Hemsl. in Journ. Linn. Soc. (Bot.) 23: 388. 1888; H. Zhu in Acta Phytotax. Sin. 32 (1): 70. 1994. TYPE: Guangdong, Luo Fu Shan, Ford 113 (K).

Lasianthus fordii Hance var. *pubescens* (Matsum.) Yamazaki in J. Jap. Bot. 39: 352. 1964, pro parte quoad syn. *L. trichophlebus* Hemsl.

5.51a subsp. **trichophlebus**

Distribution: China.

5.51b subsp. **barbellatus** (Ridley) H. Zhu, stat. et comb. nov.

Lasianthus barbellatus Ridley in Journ. As. Soc. Straits, 77: 187 1917, Fl. Malay Penins. 2: 164. 1923; Craib, Fl. Siam. Enum. 2 (1): 208. 1934; Wong, Tree Fl. Malay Penins. 4: 368. 1989. TYPE: Malay Peninsula. Pahang, Pulau Tioman, Juara Bay, Burkill 976 (holotype, SING; isotype, K).

Lasianthus cupreus Pierre ex Pitard in Lecomte, Fl. Indo-Chine 3: 392. 1924, syn. nov. TYPE: Vietnam. Condor, Harmand s. n. (Pierre Herb. no. 6173) (lectotype, P, designated here).

Distribution: S Vietnam, Thailand, Malay Peninsula, Indonesia.

Thailand. Surat, Kerr 12675, 1211 (BK, BM, K); Sai YoK, Larsen 9157 (BKF); Phattalung, Puff et Sridith 930710_1/8 (PSU, AAU); Satun, C269 (BKF); Lanpoon, Maxwell 94_1235 (AAU); Tarutao, Gongdon 209 (AAU).

Vietnam. Delta Mekong, Harmand s. n. (P).

Malay Peninsula. Pahang, Pulau Tioman, B. L. S. Wee MS 10 (SINU).

Indonesia. W Sumatra, Simarasap, alt. 1000 m, DA_239, DA_252 (L); C Sulawesi, J. Th. Johanson *et al.* 209, 118 (L).

This subspecies differs from the typical subspecies only in having somewhat smaller and elliptic leaves.

5.52 *Lasianthus verticillatus* (Lour.) Merr. in Trans. Amer. Philos. Soc. n. s. 24: 372. 1935; H. Zhu in Acta Phytotax. Sin. 32 (1): 68. 1994; H. Zhu in Acta Bot. Yunnan. 20 (2): 156. 1998.

Dasus verticillatus Lour., Fl. Cochinch. 142. 1790; Moore in J. Bot. Brit. Foreign. 63: 250. 1925. TYPE: Cochinchina, Dausus G. 48 (holotype, BM).

Lasianthus andamanicus Hook. f., Fl. Brit. Ind. 3: 189. 1880, excl. var. *ciliatus* Deb et Gang.; Craib, Fl. Siam. Enum. 2 (2): 207. 1934. TYPE: Andaman, Wall. Cat. 8309 (isotype, K).

Lasianthus obliquinervis Merr. in Philipp. J. Sci. 1 (suppl.): 136. 1907. SYNTYPE: Philippine, Whitford 247 (isotype, P).

Mephitidia chinensis sensu Nakai, Trees and Shrubs Jap. ed. 1: 382. 1922, non Champ.

Lasianthus nigrocarpus Masam. in Trans. Nat. Hist. Soc. Formos. 22: 222. 1932, nom. nud.

Lasianthus trichophlebus auct. non Hemsl.: Fl. Hainan 3: 336. 1974; Icon. Corm. Sin. 4: 247. fig. 5907. 1975.

L. tamirensis Pierre ex Pitard in Lecomte, Fl. Gen. Indo_Chine 3: 390. 1924. TYPE: Cambodia. Samrong_tong, Mt. Tamire, Pierre 587 (holotype, P; isotype, K).

Lasianthus chinensis sensu Maxim. in Bull. Imp. Acad. Sci. St Petersburg. 29: 173. 1883, non Benth. (1861); Henry, List Pl. Formos.: 51. 1896; Matsum. in Bot. Mag. (Tokyo) 15: 16. 1901; Pitard in Lecomte, Fl. Gen. Indo_Chine 3: 391. 1924; Li, Wood. Fl. Taiwan 855. 1963, pro parte; Chao in Fl. Taiwan 4: 286. 1978, pro parte quoad pl. 1005.

5.52a var. **verticillatus**

Distribution: China, Japan (Ryukyu), Philippines, Indonesia, Thailand, Vietnam, Laos, Cambodia, Myanmar, India (Andaman and Nicobar).

Thailand. Loei, Beusek 7550(K), Lekagul 82(BKF); Rayawng, Put 2704(K); Ban Dan, Kerr 4133(K); Peninsular region, Charoenphel 4095 (K, E); Chaiyaphun, Geesink 6877(K), Vacharee 1064 (BK); Nakhon Ratchasima, Beusek 1881(K, BKF); Chiang Mai, Geesink 5695 (K), Put 2740 (E), Murata *et al.* 15745 (BKF); KhonKaen, Murata *et al.* T_41830, 41828 (BKF); Chulaphom Dom, Larsen 31454(K), Kerr 4133(K); Beusekom *et al.* 4116 (P); Trat, Phengnaren s. n. (BKF); Kanchanaburi, Larsen *et al.* 33863(BKF), 9157 (BKF); E Thailand, Beusekom *et al.* 4465(BKF), 3270(BKF), 4116(BKF); Songkla, Hamilton *et al.* 104 (BKF); Uthathani, Karen 296 (BK); Chonburi, Maxwell 71_424 (BK), 75_192 (BK); Chaipoom, Adisai 401 (BK); Chantaburi, Maxwell 74_485, 74_484 (BK); Pangnga, Smitinand *et al.* 2043 (BK); Saraburi, Maxwell 74_515 (BK); Petchaboon, Smitinand 460 (L); Locality unknown, Collons 819, 844 (BK), Winit 1695 (BK).

Vietnam. Ninh Binh, Tirvengadam *et al.* 3375(AAU), 3367 (AAU); Bach Ma, J. E. Vidal 1058A(L); Tonkin, Bon 6107; Cochinchina, Thorel 1175 (K, P), Harmand 187 (K, E), 770 (P); Hue, Squire 233; Tourane, Clemens 3600; Annam, Nha_trang, Robinson 1394 et 1294 (P), Thua_thien, Eberhardt 2864 (P).

Cambodia. Chua_chuang, Pierre 6172 (P); Pierre 587; Chevalier 31817 (P); Sum Roap, Martin 492 (P).

China. Taiwan: Price 387, 716; Faurie 263 (BM), 246 (BM), 251 (BM), 242 (BM); Oldham 218 (BM), s. n. (BM); Wilson 11111; Suzuki 4491; Tanaka 1757, 11124 (E); Keng et Kao 2683 (E); Taipei, Boufford *et al.* 24960 (KUN). Hongkong: Leveil 673 (E). Guangdong: Lofu Mt., F. C. Hou 74040 (SCBI), X. P. Kao 52444 (SCBI), X. Z. Wang 90 (SCBI).

Japan. Ryukyu, Furuse 2987, 856, 4667, 2910, 2845, 3640, 2875, 3379.

Philippines. Mindanao, Elmer 14007 (K, E); Luzon, Elmer 14908, 16522 (K, P); Banarjao, Robinson s. n. (Bureau Sci. no. 6571) (P); Tayabas, Ramos 13323; Bataan, Whitford 247 (P); Rizal, San Andales, Edano s. n. (Bureau Sci. no. 48702) (P); Pampanga, Mt. Pinatubo, Elmer 21967 (P); Negros, Edano s. n. (Herb no. 38847_2) (L); Palawan, D. D. Soejarto *et al.* 7656 (L).

Indonesia. Java, Zollinger 594? (P); C Java, Kostermans 6255 (L). Sumatra, Enggano, Lutjeharms 4109 (P); Lampung, unknown coll. no. 42 (L). Celebes, N Sulawesi, A. C. Church

et al. 10 (L). Lesser Sunda, J. Elbert 4429 (L); Verheijen 2365(L), 3173 (L).

India. Andaman, Kurz s. n., King s. n. (K), Par Reroa 459(K).

Myanmar. Tenasserim, Kurz 21591(K).

This species was often confused with *L. chinensis* Benth. It differs from the latter in having thinner or sparse appressed pubescence on branches and leaf nerves beneath, coriaceous leaves with 5~ 9 pairs of nerves and parallel veinlets, cupulate and usually truncate calyx without teeth or sometimes with minute teeth, as well as the fruit not angular.

5. 52b var. **taitoensis** (Simizu) H. Zhu in Acta Phytotax. Sin. 32 (1): 69. 1994 et in Acta Bot. Yunnan. 20 (2): 156. 1998. — *Lasianthus taitoensis* Simizu in Trans. Nat. Hist. Soc. Formos. 34: 239. 1944. — *Lasianthus obliquinervis* Merr. var. *taitoensis* (Simizu) T. S. Liu et J. M. Chao in Taiwan. 10: 145. f. 15. 1964. TYPE: China. Taiwan, T. Suzuki et Fukuyama s. n. (TIU), not seen.

Lasianthus truncatus Bedd., Icon. Pl. Ind. Or. 1: 2. t. 9. 1874; Hook. f., Fl. Brit. India. 3: 189. 1880; Deb et Gang. in J. Econ. Taxon. Bot. 15 (2): 302. f. 13. 1991. TYPE: India. Mahendra Hill, Beddome s. n. (lectotype, K).

Distribution: China (Taiwan), India, Malay Peninsula, Myanmar, Thailand (new record), Indonesia (Sumatra) and Philippines.

Thailand Collins 407(K); Korat, Kerr 2145(K); Chonburi, Phengnaren 212(BKF); Trang, Wenpruk 743 (BKF); Narathiwat Larsen *et al.* 43012 (AAU).

China. Taiwan: Yeh 793(K).

Myanmar. Tenasserim, Helfer 2933 (K).

Malaysia. Malay Peninsula, Langkau, Robinson 6292 (K).

Indonesia. Sumatra, Teysmann s. n. (K).

Philippines. Luzon, Bontoc, Ramos et Edano s. n. (Bureau Sci. no. 38061) (P); Negros Occidental, B. C. Stone *et al.* 6178 (L).

India. Bihar, Haines 651(K); Vizagakalan, Luihiugt. 42, s. n. (K); Salem, Matthew 28243 (K).

This variety differs from the typical variety in having smaller, lanceolate, 7~ 21 cm long and 1.5~ 3.5 cm wide leaves.

5. 52c var. **hirsutus** H. Zhu, var. nov.

A typo ramulis tenuibus, appresse hirsutis, stipulis dense hirsutis, bracteis subulatis, calycibus hirsutis, lobis subulatis hirsutis differt.

TYPE: Thailand. Songkla, in evergreen forest, 21 Dec, 1978, G. Gongdon 104 (holotype, AAU); Patthalung, K. Larsen *et al.* 41510 (AAU); Chanthaburi, C. Niyomdham *et al.* 1318 (BKF).

5. 53 ***Lasianthus wallichii*** (Wight et Arn.) Wight in Calc. Nat. Hist. 6: 503. 1846; Hook. f. Fl. Brit. Ind. 3: 180. 1880, excl. var. ? *penangensis* Hook. f.; Matsum. in Bot. Mag. Tokyo 15: 16. 1901; Prain, Beng. Pl. 1: 576. 1903; Pitard in Lecomte, Fl. Gen. Indochine 3: 387. 1924; Craib, Fl. Siam. Enum. 2(1): 220. 1934; Hara et Gould in Hara et Will., Enum. Fl. Pl. Nepal 2: 204. 1979; Deb et Gang. in J. Econ. Tax. Bot. 15 (2): 307. 1991; H. Zhu in Acta Phytotax. Sin. 32 (1): 56. 1994; H. Zhu in Acta Bot. Yunnan. 20 (2): 157. 1998. — *Mephitidia wallichii* Wight et Arn., Prodr. 1: 390. 1834, in nota. TYPE: India. Silhet, De Silva s. n., ex Wall. Cat. 8442 (K).

Novatilea? hispida Wall. in Roxb. Fl. Ind. 2: 187. 1824, non est *Lasianthus hispida* Elmer, Leaf. Philip. Bot. i.: 10. 1906.

Lasianthus densifolius Miq. Fl. Ind. Bat. 2: 321. 1857; King et Gamble, Mat. Fl. Malay Penins. no. 15: 122. 1904, pro parte; Ridley, Fl. Malay Penins. 2: 153. 1923, pro parte; Craib, Fl. Siam. Enum. 2 (1): 210. 1934; Wong, Tree Fl. Malay Penins. 4: 368. 1989, pro parte, syn. nov. SYNTYPE: Java, Jungh. s. n. (L).

Lasianthus plagiophyllus Hance in Journ. Bot. n. s. 4: 196. 1875; T. S. Liu et J. M. Chao in Taiwania 10: 147. fig. 16. 1964; J. M. Chao in Fl. Taiwan 4: 303. pl. 1015. 1978. — *Lasianthus wallichii* (Wight & Arn.) Wight subsp. *plagiophyllus* (Hance) C. Y. Wu et H. Zhu in Acta Phytotax. Sin. 32 (1): 57. 1994. — *Mephitidia plagiophylla* (Hance) Nakai, Trees and Shrubs Jap. rev. ed.: 529. 1927. TYPE: China. Hongkong, Herb. Hance 18438 (holotype, BM; isotype, K).

Lasianthus bordenii Elmer, Leaf. Philip. Bot. 1: 11. 1906. TYPE: E. Elmer 6977 (isotypes, E, YN).

Mephitidia tonkinensis Drake in Morot, J. de Bot. 9: 240. 1895. — *Lasianthus tonkinensis* (Drake) Pitard in Lecomte, Fl. Gen. Indochine 3: 376. 1924. TYPE: Vietnam. Tonkin, Bavi, Balansa 2656 (holotype, P; isotype, K).

5.53a var. *wallichii*

Distribution: NE India, Nepal, Bhutan, China, S Japan, Philippines, Indo-China, Thailand, Myanmar, Indonesia and New Guinea.

Thailand. Nan, Larsen *et al.* 44473 (AAU); Phetchaburi, Larsen *et al.* 45095 (AAU); Rachasima, Kerr 9845 (BK), Phengkklai 433, 497 (BKF, K); Nakhon Sritamarat, Kerr 15466 (BK), Bunnak 734 (BKF), Beusekom *et al.* 798 (BKF); Conburi, Maxwell 76_145 (BK); Peninsular region, Larsen 3581 (E), S. Pheng 503; Korat, Kerr 9845 (K); Salut, Kerr 15739 (K); Sritamarat, Kerr 15466 (K); Trang, Larsen *et al.* 41543 (AAU); Khao Chong, Charoenphol *et al.* 3709 (P).

China. Taiwan: Oldham 299, 223 (BM); Boufford *et al.* 24964 (KUN); W. R. Price 1117, 1446, C. E. Chang 2476, T. Y. Liu et Y. Shimada *et al.* 11123 (E); Faurie 252, 241 (BM); Taipei, Boufford *et al.* 24964 (KUN), Keng s. n. (L).

Japan. Ito, Murata s. n. (K). Ryukyu, Furuse 1917, 4321, 3868, 4468, 4013, 1513, 13465, 1818, 1767, 1428, 1226, 10438 (K); Nakaike 633 (Okinawa) (K, BM), Murata 17031; Yamazaki 19115 (K).

Vietnam. Condor, Harmand s. n. (P); Bienhoa, Pierre 1341 (P); Ninhthai, Bon 4071 (P), 4219 (P); Quangtri, Eberhardt 2019 (P).

Cambodia. Thepong, Pierre 1341 (P).

India. Khasia, Keenan 495 (K); Upper Assam, Cachar, Keenan s. n. (K).

Myanmar. Tenasserim, Tavoy, Keenan *et al.* 1520 (E), 1199 (E).

Philippines. Luzon, Pampanga, E. Elmer 22097 (K); Bataan, J. E. Borden 2088 (E); Sibulan, Negros, Edano s. n. (Herb. No. 2099_2) (L); Dagami, Ramos s. n. (L).

Indonesia. Java, Unknown locality and collector, H. L. B. No. 932. 34_178 (L); Unknown locality, Backer 6074 (L), Korm. 2727 (L); West Flores, Unknown locality, Kostermans et Wiranwan 490 (L); P. E. Schmutz 56 (L); Lesser Sunda, Verheijen 705 (L), 704 (L), 4768 (L), 4079 (L), 3158 (L); Molukken, E. Stresemann 91 (L).

New Guinea. Morobe, B. J. Conn. 1719(L), M. S. Clemens 1192 (L).

The syntype of *L. densifolius* Miq. in L (Jungh. s. n.) agrees exactly with the type of *L. wallichii* Wight. Hooker's description and the cited specimen Wall. Cat. 8441 in part (K) does not agree with Miquel's type and it represents a different species. King and Gamble (1904), Ridley (1923) and Wong (1989) followed Hooker's conception and treated those two species as one.

5.53b var. **setosus** (Craib) C. Y. Wu et H. Zhu in Acta Phytotaxon. Sin. 32 (1): 57. 1994; H. Zhu in Acta Bot. Yunnan. 20 (2): 158. 1998. TYPE: Thailand. Rancury, Kerr 11827 (holotype, K; isotype, BM).

Lasianthus setosus Craib in Kew Bull. 1933: 26. 1933 et Fl. Siam. Enum. 2 (1): 217. 1934.

Lasianthus thorelii Pitard in Lecomte, Fl. Gen. Indochine 3: 389. 1924. TYPE: Laos. Penongs, Thorel 2161 (holotype, P).

Distribution: China (S Yunnan), Laos, Thailand.

Thailand. Tung Salaeng Luang, Larsen 808(K), Hansen *et al.* 11088 (K), Tagawa *et al.* 2112(BKF), 11790 (BKF); Chiang Mai, Schumacher 722 (BKF).

This variety differs from var. *wallichii* in having stiff hairs on branches and sometimes on leaves too.

5.53c var. **hispidocostatus** H. Zhu in Acta Bot. Yunnan. 20 (2): 158. 1998. TYPE: China. Yunnan, Szemao, in forest, 4000 ft., Henry 12789 (holotype, K).

Lasianthus wallichii sensu Kurz, For. Brit. Burma 2: 31. 1877, non Wight.

Distribution: China, Nepal, Bhutan, NE India, Bangladesh, Myanmar, Thailand (new record).

This variety differs from the typical variety in having leaves which are almost not oblique at base and hairy on midrib above.

Thailand. Chiang Mai, Fokuoka T_62491 (BKF).

China. Yunnan: Henry 12789a (E, K); Xizang: Mêdog, H. Sun *et al.* ETM_1494, 2148, 2214 (KUN).

India. Naga hills, Meebold 7462; Khasia, J. D. Hooker & T. Thomson s. n. (K).

Bangladesh. Chittagong, J. S. Gamble 7910 (K).

Myanmar. Sumpura Bum, Kingdon_Ward 20391(K); Nam Tamai, Kingdon_Ward 9150(K); Kalay Hills, Prazer 89 (E).

Nepal. Chainpur (5000 ft.), Stainton 442 (E).

Species excluded from *Lasianthus* Jack.

Saprosma brevipes (Craib) H. Zhu, comb. nov. — *Lasianthus brevipes* Craib in Kew Bull. 1933: 20. 1933 et Fl. Siam. Enum. 2 (1): 208. 1934. TYPE: Thailand. Nakawn Sritamarat, Kerr 15641 (holotype, K, isotypes, BM, BK).

Distribution: Endemic to Thailand.

Thailand. Chanthaburi, Beusekom *et al.* 2200 (BKF); Ranuary, Kerr. 16652 (BM); Pattani, Kerr 7776 (BM).

This species has typical 2-pyrened drupe and should be a *Saprosma* species.

Saprosma lowianus (King et Gamble) H. Zhu, comb. nov. — *Lasianthus lowianus* King et Gamble in Journ. As. Soc. Beng. 74. Addend. Corrig.: 871. 1909; Ridley, Fl. Malay

Penins. 2: 167. 1923; Craib, Fl. Siam. Enum. 2 (1): 213. 1934; Wong, Tree Fl. Malay Penins. 4: 368. 1989. TYPE: from Malay Peninsula, not seen.

Lasianthus lucidus King & Gamble, Mat. Fl. Malay Penins. no. 15: 132. 1904, non Blume (1826). SYNTYPES: Malay Peninsula. Selangor, Ridley 7437(SING), Wray 2807(SING).

Lasianthus glaberrimus Ridley in Journ. As. Soc. Straits, 79: 86. 1918, non Ridl., 1920; Craib, Fl. Siam. Enum. 2 (1): 211. 1934. SYNTYPES: Malay Peninsula. Selangor, Ridley 8574; Malacca, Maingay s. n.; Penang, Curtis 964; Kedah, Ridley 5549, not seen.

Lasianthus virgatus Craib in Kew Bull. 1933: 28. 1933 et Fl. Siam. Enum. 2 (2): 219. 1934, syn. nov. TYPE: Thailand. Trang: Kerr 15226 (K).

Distribution: S Thailand, Malay Peninsula.

Thailand Surat, Kerr 13245 (BK), 13245a (BK); Phuket, Kerr 14499 (BK), 19194 (BK), Kerr 19426 (BK), Kerr 16921 (BK), Kerr 17190 (BK), Kerr 18420 (BK), Kerr 15260 (BK), Lakshvakara 310 (BK); Nakhon Sritamarat, Kerr 15469 (BK), Beusekom *et al.* 890 (BKF), Larsen *et al.* 30838 (BKF), Iwatsuki *et al.* T_14547 (BKF), T_14628 (BKF), T_14605 (BKF), Tagawa 4714 (BKF); Songkla, Kerr 15942 (BK); Pattani, Kerr 7563 (BK); Trang, Kerr 15257 (BK), Kerr 15258 (BK).

Most of checked specimens of this species show drupes with 2 pyrenes, which suggests it a member of *Saprosma* Bl.

Lasianthus virgatus Craib can not be separated from *Lasianthus lawianus* King & Gamble.

Acknowledgments: This project was sponsored by "The Chinese Academy of Sciences Foundation for Top One Hundred Scientists". I thank the Herbaria L, K, BM, E, P, KEP, BKF, BK, SING and PSU, HN for conveniences of referencing specimens and AAU for loan of specimens as well as C for sending photos of type specimen. I also would like to thank Prof. Kai Larsen for sending me publications of the genus *Lasianthus* and Prof. Thawatchai Sarrtsuk, Dr. Kongkanda Chayamarit, Dr. E. R. Colin, Prof. C. Puff, Dr. D.M. Bridson, Prof. C.Y. Wu, Prof. Z. F. Xu, Prof. H. Li as well as my other colleagues who helped me a lot in this project. It is appreciated that Mr. X. L. Wu drew for the new species. Finally, Dr. D. Z. Li, Dr. H. Peng and two anonymous offered constructive comments and valuable suggestions on the manuscript.

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摘要 在详细检查了 K, BM, E, P, AAU, L, KEP, BKF, BK, SING, PSU 等标本馆藏茜草科粗叶木属 *Lasianthus* Jack. 植物标本基础上, 研究了泰国产粗叶木属植物的分类学, 共归并 7 个种名, 建立 3 个新种, 3 个新变种, 1 个新等级, 以及 8 个泰国分布新记录种及 8 个泰国分布新记录变种, 确认泰国共有粗叶木属植物 52 种, 1 亚种, 12 变种; 讨论了易于混淆的种的界线、它们可能的亲缘关系以及识别要点。

关键词 茜草科; 粗叶木属; 分类学; 泰国

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