

New Species of Theaceae from Tropical Asia

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Abstract

The new species and combinations reported on this paper are deposited in the herbaria of Smithsonian Institution, Arnold Arboretum of Harvard University and the Missouri Botanical Garden. This report has enriched the knowledge about the tropical Theaceae flora. Since the genera *Camellia* and *Tutcheria* are East Asian subtropical endemics, nearly all the species are restricted along the line of Tropic of Cancer. So far as we known, only one or two species were reported from the tropic. The new *Camellia* and *Tutcheria* found on Kalimantan, Luzon and Mindora would once more indicated that the Islands in ancient time were belonged to the Cathaysian landmass. Geologically, at the end of Triassic Period, the Indo-China mountain movement appeared at the south Cathaysia ancient land, and combined Indo-China and Malay Peninsulas, Sumatra and Kalimantan together with the Cathaysia, which had proved by Mesozoic fossils.

Keywords: Theaceae, *Camellia*, *C. thailandica*, *C. bolovenensis*, *C. philippinensis*, *C. megacarpa*, *C. montana*, *C. pseudo-elongata*, *C. mollis*, *Tutcheria*, *T. membranacea*, *T. merrilliana*, *T. taiwanica*.

Camellia Linn.

1 *Camellia thailandica* Chang et Ren, sp. nov.

Subgen. *Camellia* Sect. *Paracamellia*

Frutex, ramulis pubescentibus. Folia coriacea lanceolata 5~7 cm longa, 1.5~2.5 cm lata, apice acuta, basi cuneata, supra in sicco atro-viridia nitidula, subtus glabra nitidula; nervis lateralibus utrinsecus 6~7 supra inconspicuis subtus visibilibus; margine crenata; petiolis 5~6 mm longis brunneo-pubescentibus. Flores albi subsessiles; bracteis sepalisque 7~8 membranaceis ovatis 7~8 mm longis glabris deciduis; petalis 5~6 subliberis obovatis 1~1.5 cm longis glabris, staminibus 2~3-seriatis, filamentis 8~9 mm longis subliberis glabris; ovariis 3~10ocularibus pilosis; stylis 3 subliberis 4 mm longis glabris. Capsula non visa.

Thailand: Khao Yai National Park, Khao Khreo, alt. 1200~1300 m, 3rd. Exp 1970, Ch. Cheroenphol, Kai Larsen et E. Warncke 4205, typus, (*Missouri Bot. Gard. herb. no.* 2367069).

A *C. brevistyla* Coh.-St. foliis majoribus floribus longioribus differt.

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2 *Camellia bolovenensis* (Gagnep.) Chang et Ren, comb. nov.

Subgen. *Camellia* Sect. *Furfuracea*

Thea bolovenensis Gagnep. in Not. Syst. 10: 124; in Fl. Indo-Chine, suppl. 1: 308, 1942.

A *C. furfuracea* Coh.-St. foliis minoribus tenuioribus, capsulis majoribus, valvis crassioribus differt.

Vietnam: Plateaude Boloven, Prov. Bassac. *M. Eug. Poilane* 19896, Laos: Prov. Donnai, 1939, Feb. 23, *M. Eug. Poilane* 24946, (in herb. Arn, Arb.)

3 *Camellia philippinensis* Chang et Ren, sp. nov.

Subgen. *Camellia* Sect. *Furfuracea*

Frutex, ramulis gracilibus glabris, siccate atro-brunneis, ramis viridis; gemmis glabris. Folia coriacea angustiore oblonga 5~7 cm longa, 1.4~2 cm lata, apice acuminata, basi cuneata, supra viridia nitida, subtus fulviviridia glabra, nervis lateralibus utrinsecus 6~7, supra ut venulis reticulatis leviter impressis, subtus haud visibilibus, venulis inconspicuis, margine 1/2 superiore crenulatis; petiolis 7~10 mm longis gracilibus glabris. Flores ignoti. Capsula globosa 1~1.4 cm diam. (immatura), 3-locularibus, subsessilis, pericarpio lepidotis vel furfuraceo, valvis 3-4 mm crassis. Semina 2~3 in quoque loculo.

Paluan Mindora: *M. Ramos s. n.* April 1921. *Bureau of Science of Philippine*, herb. no. 39600, typus, herb. no. of *Smithsonian* 1261024.

Although no flower were being seen, by the furfuraceous lepidote on the pericarp, it would be very easy to recognizing that it belongs to the Section *Furfuracea*.

Bureau of Science no. 33005 collected by M. Ramos from Ilocos Norte Province, Luzon had been identified by E. D. Merrill as *Thea lanceolata* var. *stenophylla*, in Enum Philipp. Plants, 3: 70, 1923, and *Thea montana* var. *stenophylla* Merr. in herb, is much related to this new species, although the leaves are rather narrower.

4 *Camellia megacarpa* (Elmer) Coh.-St. in Meded. Proefst. Thee, 40: 68, 1916, et in Bull. Jard. Bot. Buitenzorg, ser. 3, t. 245, 1919.—*Thea megacarpa* Elmer, leaflets Philippine Bot, 5: 1842, 1913; Merr. Enum. Philip. Pl. 3: 70, 1923; *Camellia lanceolata* sensu Sealy, Rev. Gen. *Camellia*, 144, 1958, non Seem,

Subgen. *Camellia* Sect. *Furfuracea*

Palawan: Puerto Princesa, mt. Pulger, *A.D.E. Elmer* 12822.

Elmer 12822 bearing free filaments and thicker pericarp is much differed from those 3-sulcated and thinner pericarp and the totally united filaments into tubed stamen as found in *Camellia lanceolata* (Bl.) Coh.-St. which belongs to the Sect. *Calpandria*.

5 *Camellia montana* (Blanco) Chang et Ren, comb. nov.

Salceda montana Blanco, Fl. Filip. ed. 2. 374, 1845; ed. 3. II. 372, 1879; — *Thea montana* (Blanco) Merr. in Govt. Lab. Publ. 27: 21, 1906, l.c. 35: 44, 1906, in Philippine Bur. Govern. Lab. Publ. suppl. 95, 1906; Sp. Blanco, 264 1923;—

Thea lanceolata senu Merr. Enum Philip. Plants, vol.:3. 69. 1923;—*Camellia lanceolata* senu Sealy, Rev. Gen. Camellia 142. 1958, non Seem.

Subgen. *Camellia* Sect. *Paracamellia*

Luzon: A.D. E. Elmer 8349, 8995, 14282, 17663; Benguet, N. Luzon, R.S. Williams 1016, 1037, Rigal Province, Bosobosa, *Philippine herb.* no. 841.

This species was reduced by F. Vullar as *Camellia lanceolata* (Bl.) Seem. Accorded to E.D. Merrill's citation: "It is very closely related to *Calpandria lanceolata* Blume, if not identical with it." J. R. Sealy followed the previous identification, and reduced it to *Camellia lanceolata*. By the character of the specimen cited above, the stamens 5~6 mm long, filaments free, styles 3 mm in length, it shows not related to the Section *Calpandria*, but belongs to *Paracamellia*. The typical characters of the species are as following: Young branchlets pilose, leaves oblong 6~9 cm long, 2~3.5 cm broad, both ends obtuse or subround, flowers shortly stalk, petioles 2~4 mm long, petals 6~7, 1 cm long, stamens 5~6 mm long free, styles 3 mm long.

6 *Camellia pseudo-elongata* Chang et Ren, sp. nov.

Subgen. *Metacamellia* Sect. *Theopsis*

Frutex, ramulis gracilibus puberulis. Folia lanceolata vel oblongo-lanceolata 4~6 cm longa, 1.2~2 cm lata, apice caudato-acuminata, caudo 1~1.2 cm longo, basi cuneata, supra nitida, subtus costa excepta glabra, nervis lateralibus utrinsecus 5~6 supra inconspicuis subtus haud visibilibus, margine crenata, petiolis 4~5 mm longis puberulis. Flores ignoti, Capsula globosa 1.6~2 cm in diametro, 1-ocularis, pericarpio 1~1.5 mm crasso glabro, sepalis persistentibus ovalis 3~4 mm longis, pedicelis fructiferis 1~1.3 cm longis, semen singularis globosa.

A *C. elongata* Rehd. differt sepalis minoribus subliberis, capsula globosa majore.

Indo-China: Pre-Touram 1934, *M. Eug. Poilene* 7261, typus; Bana, 1920, June 6, *M. Eug. Poilane* 1508.

7 *Camellia mollis* Chang et Ren, sp. nov.

Thea lanceolata (Bl.,) Pierre var. *mollis* Merr. Enum. Philip. Pl. 69: 1923;—*Thea montana* var. *mollis* Merr. in herb.

Subgen. *Camellia* Sect. *Paracamellia*

Frutex, ramulis pilosis. Folia coriacea lanceolata 5~8 cm longa 1.5~2.5 cm lata, supra nitidula, subtus flavo-pilosa, apice acuminata, basi late cuneata vel subrotundata, nervis lateralibus utrinsecus 5~7 supra leviter impressis, margine densius crenulata, petiolis 3~4 mm longis pubescentibus. Flores non visi. Capsula globosa 2~2.5 cm in diametro, 3-ocularis, pericarpio 2 mm crasso piloso; semina 2~3 in quoque loculo.

A *C. montana* (Blanco) Chang et Ren differt foliis lanceolatis, subtus densius pilosis, capsula minoribus, pericarpio tenuiore.

Luzon: Angat, Bulacan Province, 1919 Feb. *M. Ramos* et *E. Edano* s. n. *Bureau of Science of Philippine*, herb. no. 34071, typus, in herb. Inst. Smithsonian,

Tutcheria Dunn

1 *Tutcheria membranacea* Chang et Ren, sp. nov.

Arbor parva, ramulis pubescentibus. Folia tenui submembranacea obovato-oblonga. 12~17 cm longa 4~6.5 cm lata. apice caudata, caudo 1.4~2 cm longo, basi late cuneata, supra in sicco viridia opaca, subtus leviter viridia punctata, ad costam pubescentia, nervis lateralibus utrinsecus 7~9 ut venulis reticulatis utrinque conspicuis, margine irregulariter serrulata, petiolis 5~8 mm longis. Flores ignoti. Capsula ellipsoidea 3~3.5 cm longa, 2.2~2.6 cm lata, 5-locularis 5-sulcata, 5-valvatis dehicens valvis valde tenuis. sepalis persistentibus ovatis 6~7 mm longis extus pilosis intus glabris rubellis; seminibus 2 perpendiculariter disposita in quoque loculo, pedicellis valde brevibus.

A *T. tawaensi* (Keng) Chang et Ye* differt foliis latioribus, nervis lateralibus paucioribus, capsula 5-locularibus, pericarpio multo tenuibus; a *T. pahangensi* (Keng) Chang et Ye* foliis minoribus, capsula ellipsoidea 5-locularis minore recedit.

Kalimantan. 1931-32, *J. et M.S. Clemens* 28517-28149 typus; Tenompok, alt. 5,000 ft. *J. et M.S. Clemens* 29619=26189, in herb. Arn. Arb.

2 *Tutcheria merrilliana* Chang et Ren, sp. nov.

Thea mindanaensis Merr. sp. nov. in herb.

Arbor parva, ramulis glabris vel leviter puberulis, siccate flavo-brunneis, gemmis brunneo-pilosis. Folia coriacea obovato-oblonga 8~13 cm longa, 3~5 cm lata, apice abrupte acuta, basi anguste cuneata. supra in sicco flavoviridia, subtus leviter viridia glabra, nervis lateralibus utrinsecus 7~9 ut venulis reticulatis utrinque prominentibus, margine serrata petiolis 8~10 mm longis. Flores axillares subsessiles, sepalis 5 subrotundatis 5~6 mm longis 6~7 mm latis, extus pubescentibus intus glabris brunneo-rubellis; petalis flava obovatis 1.5 cm longis; staminibus 1 cm longis; ovariis pilosis 5-locularibus, stylis 3~4 mm longis. Capsula ellipsoidea, 1.8 cm longa 1 cm lata, pilosa, 5-valvato-dehiscens, valvis valde tenuis, seminibus cylindricis.

Luzon: Mt. Candoon, Bukidnon, subprovince Mindanao, *M. Ramos et Fdano s. n. Bureau of Science of Philippine no. 38839* typus in herb. Smithsonian Inst., District of Lanao, Mindanao, 1916 March, *R. J. Alvarez, Forestry Bureau of Philippine no. 25181*.

Bureau of Science 38839 was signed by E. D. Merrill as *thea mindanaensis* sp. nov. According to the character of the sepals, the inner side is reddish and glabrous, and the arrangement and the shape of the seeds, it steadily shows that it belongs to *Tutcheria*. the specimen of Forestry Bureau 25181 bearing an incomplete developed fruit with 2-celled also belongs to this species.

* Ye in Acta Sci. Nat. Sunyatseni Universitati, 1985, II, 84

3 *Tutcheria taiwanica* Chang et Ren, sp. nov,

Arbor parva, ramulis puberulis, gemmis flavo-tomentosis. Folia coriacea elliptica 5~8 cm longa, 2.5~3.8 cm lata, apice rotundata vel obtusa, basi late cuneata, supra brunnea viridia opaca, subtus leviter brunnea glabra, nervis lateralibus utrinsecus 8~9 ut venulis reticulatis utrinque prominentibus, margine crenulata, petiolis 5~7 mm longis pubescentibus, Flores axillares singulares subsessiles, bracteis deciduis, sepalis 5 coriaceis late ovatis 5~7 mm longis, 5~8 mm latis, apice rotundatis sinuosis, extus pubescentibus intus glabris rubo-brunneis, petalis et staminibus deciduis, ovarii 3-ocularibus, pilosis, stylis brevibus pilosis. Fructibus immaturis.

A *T. ovalifolia* Li foliis majoribus floribus subsessilibus majoribus differt.

Taiwan: Banksing, tree 20 ft, Feb. 25, *A. Henry* 123, typus, in herb, Inst, Smithsonian,

The type specimen, *A. Henry* 123, was identified as *Camellia sasanqua* but the sepals are five in number and the inner side glabrous and reddish indicated it belongs to *Tutcheria*.

亚洲热带地区的山茶科新种

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摘 要

本文报导了收藏于美国国家自然博物馆史密逊研究院, 哈佛大学阿诺树木园及密苏里植物的标本室的山茶科新种, 计山茶属7个新种, 石笔木属3个新种, 它们分布于菲律宾的吕宋、加里曼丹、印度支那和泰国, 还有中国台湾。山茶属和石笔木属原来是东亚亚热带所特有, 过去个别的种分布到热带亚洲, 本文所报导的新植物, 不仅扩大了山茶科在亚洲热带的分布区, 同时也论证了上述各地在地史上曾经是华夏古陆的一部份。在地史上, 三迭纪末由于印支造山运动把印支半岛、马来半岛、苏门答腊及加里曼丹联结在华夏古陆, 古植物化石曾有过华夏植物的纪录。现在山茶属及石笔木属在上述各地的发现, 是从现代植物得到佐证, 特别是吕宋和哆明拉分布有山茶属和石笔木属, 很有指示意义。

关键词 山茶科, 山茶属, 泰国山茶, 波罗瓦糙果茶, 菲律宾糙果茶, 大糙果茶, 短柱山茶, 假长管连蕊茶, 毛短柱茶, 石笔木属, 膜叶石笔木, 梅雷石笔木, 台湾石笔木