

Annotated checklist of Thai Convolvulaceae

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ABSTRACT. An annotated checklist to the Convolvulaceae of Thailand is presented. The account covers 24 genera, 127 species and four infraspecific taxa. The present checklist includes the accepted name for each taxon plus selected synonyms and misapplied names that have been used in late 20th century taxonomic literature about the Thai flora. Taxa known to be cultivated in Thailand, but not yet escaped or naturalised, are included in the checklist and indicated as such.

Taxonomic research for the account of the Convolvulaceae of Thailand has been carried on independently by the first author and a team from Chulalongkorn University. A significant number of changes have come to light, relative to the last comprehensive list of taxa for the family (Kerr 1951, 1954). These include nomenclatural and taxonomic changes as well as new distribution records for Thailand. During a visit to Bangkok in December 2002 the authors met and decided to combine their efforts to produce a new comprehensive checklist of names for Thai Convolvulaceae as a precursor to the full account of the family now in preparation. It is hoped that having an up-to-date checklist of names available now will be useful to collectors, researchers, and students during the time that the full flora account is being written.

The present checklist includes the accepted name for each taxon plus selected synonyms and misapplied names that have been used in late 20th century taxonomic literature about the Thai flora. The primary sources for names and taxonomic concepts adopted here are Gagnepain & Courchet (1915), Oostroom & Hoogland (1953 and the addenda, corrigenda, emendanda 1954–1989), Kerr (1951, 1954), Songkhla & Khunwasi (1993), Fang & Staples (1995) and Staples & Yang (1998). Selected additional references have been provided to key works in which pertinent name changes have been found; detailed taxonomic explanations and nomenclatural arguments are to be found in the references cited. Taxa known to be cultivated in Thailand, but not yet escaped or naturalized, are included in the checklist and indicated as such.

Generic concepts in the Asian Convolvulaceae were defined by Van Oostroom (1938, 1939, 1940, 1943, 1950, 1952) and Hoogland (1952, 1953a, 1953b) and have been widely adopted by authors of Asian floras in the last half of the 20th century (van Oostroom & Hoogland 1953; Chang 1978; Austin & Ghazanfar 1979; Austin 1980;

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Heine 1984; Khan 1985; Nhan 1990; Songkhla & Khunwasi 1993; Fang & Staples 1995; Staples & Yang 1998; Mill 1999). Thus, *Argyreia* includes *Lettsomia*; *Ipomoea* includes *Batatas*, *Calonyction*, *Pharbitis*, and *Quamoclit*; *Operculina* is kept separate from *Merremia*. Some changed generic concepts adopted here include segregation of *Xenostegia* from *Merremia* (Austin & Staples 1980); division of *Porana s.l.* into *Dinetus*, *Poranopsis*, *Tridynamia*, and *Porana s.s.* (Staples 1993, Fang & Staples 1995). Finally, the monospecific *Remirema* (Kerr, 1943) is here provisionally kept separate from *Operculina*, pending further investigation.

New distributional records for Thailand: *Argyreia penangiana*, *Cuscuta campestris*, *Ipomoea bracteosa*, *I. wangii*, *Merremia collina*, *M. subsessilis*, *M. verruculosa*, *Neuropeltis indochinensis*, *Operculina petaloidea* var. *pauciflora*.

Summary of Taxa (including cultivated taxa)

24 genera
127 species
4 infraspecific taxa

Acronyms used in the checklist: FIC = *Flore Générale de l'Indochine*; FSE = *Florae Siamenses Enumeratio*; FoC = *Flora of China*; FM = *Flora Malesiana*; 10G = *Ten genera of Thai Convolvulaceae*.

CHECKLIST OF THAI CONVULVACEAE

ANISEIA Choisy [Reference: Austin, 1999]

Aniseia martinicensis (Jacq.) Choisy, FSE, FM

Ipomoea uniflora Roem. & Schultes, FIC

ARGYREIA Lour. [Reference: Traiperm, 2002]

Argyreia adressa (Choisy) Boerl., FM

Lettsomia adressa (Choisy) Miq., FSE

Argyreia atropurpurea (Wall.) Raizada

Lettsomia atropurpurea (Wall.) C.B. Clarke, FSE; *A. pierreana* Bois, FIC, FoC

Argyreia brachypoda (Kerr) Ooststr.

Lettsomia brachypoda Kerr, FSE

Argyreia breviscapa (Kerr) Ooststr.

Lettsomia breviscapa Kerr, FSE

Argyreia calcicola (Kerr) Ooststr.

Lettsomia calcicola Kerr, FSE

Argyreia capitiformis (Poir.) Ooststr., FM (corrig. 6: 941), FoC

Lettsomia capitata Miq., FSE; *A. capitata* (Vahl) Choisy, FIC, FM; *L. capitiformis* (Poir.) Kerr, FSE; *L. peguensis* Ridl.

Argyreia collinsae (Craib) Na Songkhla & Traiperm [Reference: Khunwasi et al., 2005]

Lettsomia collinsae (Craib) Kerr, FSE; *Rivea collinsae* Craib

Argyreia fulvocymosa C.Y. Wu, FoC

Argyreia henryi (Craib) Craib, FIC, FoC

Lettsomia henryi (Craib) Kerr, FSE; *Ipomoea henryi* Craib

Argyreia ionantha (Kerr) Khunwasi & Traiperm [Reference: Khunwasi et al., 2005]

Lettsomia ionantha Kerr, FSE

Argyreia kerrii Craib, FIC

Lettsomia kerrii (Craib) Kerr, FSE

Argyreia lanceolata Choisy, FIC

Lettsomia lanceolata (Choisy) Kerr, FSE

Argyreia laotica Gagnep., FIC, FSE

Argyreia mastersii (Prain) Raizada, FoC

Argyreia maymyensis (Lace) Raizada

Lettsomia maymyensis (Lace) Kerr, FSE; *Ipomoea maymyensis* Lace

Argyreia maymyo (W. Sm.) Raizada, FoC

Lettsomia maymyo W.W. Sm., FSE

Argyreia mekongensis Gagnep. & Cour., FIC

Lettsomia mekongensis (Gagnep. & Cour.) Kerr, FSE

Argyreia mollis (Burm. f.) Choisy, FM, FoC

Argyreia obtecta (Choisy) C.B. Clarke, FSE

Argyreia nervosa (Burm. f.) Bojer, FSE, FM, (cultivated)

Argyreia obtecta (Choisy) C.B. Clarke, FIC, FSE

Misapplied: *Argyreia obtusifolia* sensu Craib, non Lour.

Argyreia osyrensis (Roth) Choisy var. **cinerea** Handel-Mazzetti, FoC

Argyreia osyrensis (Roth) Choisy var. **osyrensis**, FM, FoC

Argyreia osyrensis (Roth) Choisy var. *aggregata* (Roxb.) Ooststr.; *Lettsomia aggregata* Roxb. var. *osyrensis* C.B. Clarke, FSE; *Lettsomia aggregata* Roxb. FSE; *Argyreia aggregata* (Roxb.) Choisy, FIC

Argyreia penangiana (Choisy) Boerl., FM

Argyreia roseopurpurea (Kerr) Ooststr.

Lettsomia roseo-purpurea Kerr, FSE

Argyreia roxburghii Craib var. **siamica** Craib, FIC, FSE

Argyreia scortechinii (Prain) Hoogl., FM

Argyreia siamensis (Craib) Staples [Reference: Staples, 2004]

Ipomoea siamensis Craib, FIC, FSE

Argyreia splendens (Hornemann) Sweet, FSE, FoC

Lettsomia splendens Roxb.; *Convolvulus splendens* Hornemann, FoC

Argyreia stenophylla (Kerr) Staples & Traiperm [Reference: Khunwasi et al., 2005]

Lettsomia stenophylla Kerr, FSE

Argyreia thomsonii (C.B. Clarke) Craib, FoC

Argyreia thorelii Gagnep., FIC

Argyreia versicolor (Kerr) Staples & Traiperm [Reference: Khunwasi et al., 2005]

Lettsomia versicolor Kerr, FSE

Argyreia wallichii Choisy, FIC, FSE, FoC

Argyreia sp.

Lettsomia confusa Prain, FSE; Misapplied: *Argyreia setosa* sensu Gagnep. & Courchet, FIC

The foregoing list must be considered preliminary and is no doubt conservative. Further research is needed to establish how many *Argyreia* species are genuinely part of the Thai flora and to resolve the nomenclature for those species on a regional basis.

BLINKWORTHIA Choisy

Blinkworthia lycioides Choisy, FIC, FSE

BONAMIA Thouars [Reference: Myint, 1968]

Bonamia semidigyna (Roxb.) Hall. f., FIC, FSE, FM

CORDISEPALUM Verdc. [Reference: Verdcourt, 1971]

Cordisepalum thorelii (Gagnep.) Verdc.

Cardiochlamys thorelii Gagnep., FIC, FSE

A second species of *Cordisepalum* awaits description.

CUSCUTA L.

Cuscuta campestris Yuncker, FM, FoC

Cuscuta chinensis Lam., FSE, FoC

Cuscuta reflexa Roxb. var. **reflexa**, FSE, FM, FoC

Additional specimens identified as *C. australis* R. Br. and *C. pentagona* Engelm. by the collectors require verification. If correctly identified, they would add two more species to the Thai flora.

DICHONDRA J.R. & G. Forst. [Reference: Tharp & Johnson, 1961]

Dichondra micrantha Urban, FoC [Reference: Austin, 1998]

Misapplied: *Dichondra repens* sensu FIC, FM

DINETUS Buch.-Ham. ex Sweet [Reference: Staples, 1993]

Dinetus racemosus (Roxb.) Sweet, FoC

Porana racemosa Roxb., FIC, FSE, FM

Dinetus truncatus (Kurz) Staples, FoC

Porana truncata Kurz

ERYCIBE Roxb.

[Reference: Hoogland, 1953b]

Erycibe albida Prain FM,Misapplied: *Erycibe glomerata* sensu FSE**Erycibe citriniflora** Griff., FSE*Erycibe hololobula* Kerr, FSE**Erycibe cochinchinensis** Gagnep., FIC, FSE**Erycibe coriacea** Wall., FSE, FM**Erycibe elliptilimba** Merr. & Chun, FM, FoC*Erycibe fecunda* Kerr, FSE; *Erycibe noei* Kerr, FSE; *Erycibe rabillii* Kerr, FSE
Misapplied: *Erycibe paniculata* sensu FSE, sensu FIC**Erycibe expansa** Wall. ex G. Don, FSE, FM, FoC**Erycibe griffithii** C.B. Clarke, FSE, FM**Erycibe peguensis** (C.B. Clarke) PrainMisapplied: *Erycibe paniculata* sensu Kerr, FSE**Erycibe schmidtii** Craib, FSE, FoCMisapplied: *Erycibe laevigata* sensu FIC**Erycibe stapfiana** Prain, FM (see note)**Erycibe subspicata** Wall., FSE, FoC**Erycibe** sp. sensu Kerr FSE p. 98, based on *Kerr 7787* from Pattani, Khao Kalakhiri

Erycibe stapfiana, known from peninsular Myanmar as well as the Malaysian states of Perak and Pahang, must certainly occur in the intervening region of southern Thailand; it has been included in the checklist on this assumption. An additional 12 species of *Erycibe* are reported from peninsular Malaysia in *Flora Malesiana* (Ooststroom & Hoogland 1953); further collecting in southernmost peninsular Thailand may reveal their presence in the Thai flora as well.

EVOLVULUS L.

[Reference Ooststroom, 1934]

Evolvulus alsinoides (L.) L., FIC, FSE, FM, FoC**Evolvulus alsinoides** L. var. **decumbens** (R. Br.) Ooststr., FM, FoC

Evolvulus alsinoides L. var. **hirsutus** (Lam.) Ooststr., FM

Evolvulus glomeratus Nees & Martius ssp. **grandiflorus** (Parodi) Ooststr. (cultivated)

Evolvulus nummularius (L.) L., FM (add. 5: 558), 10G, FoC

Evolvulus yunnanensis S. H. Huang

HEWITTIA Wight & Arn.

[Reference: Nicolson et al., 1988]

Hewittia malabarica (L.) Suresh, FoC

Hewittia scandens (Milne) Mabb.; *H. sublobata* (L. f.) Kuntze FSE, FM; *H. bicolor* (Vahl) Wight, FIC

IPOMOEA L.

Ipomoea aculeata Blume var. **mollissima** (Zoll.) Hall. f., FM, FoC

Calonyction mollissimum Zoll., FSE

Ipomoea alba L., FM, FoC

Calonyction album (L.) House, FSE; *Calonyction speciosum* Choisy, FIC

Ipomoea aquatica Forssk., FIC, FSE, FM, FoC

Ipomoea asarifolia (Desr.) Roem. & Schult., FSE, FM

Ipomoea beladamboe Roem. & Schult., FIC

Ipomoea batatas (L.) Lam., FIC, FSE, FM, FoC

Ipomoea biflora (L.) Pers., FoC

Ipomoea sinensis (Desr.) Choisy, FIC; *I. plebeia* R. Br., FM

Ipomoea bracteosa Gagnep., FIC

Ipomoea cairica (L.) Sweet, FM, FoC

Misapplied: *Ipomoea pulchella* sensu FIC

Ipomoea campanulata L., FIC, FM (add. 9: 558) [Reference: Austin et al., 1978]

Ipomoea campanulata var. *illustris* C.B. Clarke; *I. illustris* (C.B. Clarke) Prain FSE, FM; *I. soluta* Kerr, FSE, FoC (var. *alba*)

Ipomoea carnea Jacq. ssp. ***fistulosa*** (Mart.) Austin, FM (add. 9: 558), FoC
[Reference: Austin, 1977]

Ipomoea crassicaulis (Benth.) B.L. Robinson, FSE, FM; *I. fistulosa* Mart. ex Choisy in DC., FM (emend. 4: 599)

Ipomoea coptica (L.) Roth ex Roem. & Schult., FSE, FM

Ipomoea eriocarpa R. Br., FIC, FM, FoC

Ipomoea hederifolia L., FM (corrig. 5: 563), FoC

Quamoclit angulata (Lam.) Boj., FSE; *I. angulata* Lam., FM; Misapplied: *I. coccinea* sensu FIC

Ipomoea hylophila Kerr, FSE

Ipomoea imperati (Vahl) Griseb., FoC [Reference: La Valva & Sabato, 1983]

Ipomoea stolonifera (Cyrill.) Gmel., FSE, FM; *I. carnososa* R. Br., FIC

Ipomoea indica (Burm.) Merr. (cultivated)

Ipomoea acuminata (Vahl) Roem. & Schult.; *I. learii* Paxton, FIC

Ipomoea littoralis Blume, FM (corrig. 6: 941), FoC [Reference: Austin, 1991]

Ipomoea denticulata Choisy, FIC; Misapplied: *I. gracilis* sensu FSE, FM

Ipomoea marginata (Desr.) Manitz, FoC [Reference: Manitz, 1974]

Ipomoea sagittaefolia Burm., FIC; *I. sepiaria* Koenig, FM (corrig. 6: 941); Misapplied: *Ipomoea maxima* sensu FSE, FM,

Ipomoea mauritiana Jacq., FM (corrig. 6: 941), FoC

Ipomoea sagittaefolia Burm., FIC; *I. sepiaria* Koenig, FM (corrig. 6: 941); Misapplied: *Ipomoea digitata* FIC, FSE, FM,

Ipomoea muricata (L.) Jacq., FM (cultivated)

I. turbinata Lagasca, FoC; *Calonyction muricatum* (L.) G. Don, FIC

Ipomoea nil (L.) Roth, FSE, FM, FoC

Misapplied: *Ipomoea hederacea* sensu FIC

Ipomoea obscura (L.) Ker Gawl., FIC, FSE, FM, FoC

Ipomoea pes-caprae (L.) R. Br., FSE, FM (corrig. 6: 941), FoC

Ipomoea biloba Forssk., FIC

Ipomoea pes-tigridis L., FIC, FSE, FM, FoC

Ipomoea pileata Roxb., FIC, FSE, FM, FoC

Ipomoea purpurea (L.) Roth, FM, FoC (cultivated)

Ipomoea quamoclit L., FIC, FM

Quamoclit pennata (Desr.) Boj., FSE

Ipomoea rubens Choisy, FM (corrig. 6: 941)

Ipomoea fragrans (Boj.) Boj. ex Choisy, FSE; *I. riparia* G. Don, FM; *I. bonii* Gagnep., FIC

Ipomoea sumatrana (Miq.) Ooststr., FSE, FM, FoC [Reference: Staples, 1996]

Misapplied: *Ipomoea staphylina*, FIC

Ipomoea trichosperma Blume, FM

Calonyction trichospermum (Blume) Choisy, FIC

Ipomoea tricolor Cav., FM (cultivated)

Ipomoea triloba L., FIC, FSE, FM, FoC

Ipomoea violacea L., FoC

[Reference: Manitz, 1977]

Calonyction tuba (Schlecht.) Colla, FSE; *I. tuba* (Schlecht.) G. Don, FM; *I. macrantha* Roem. & Schult, FM (corrig. 9: 558)

Ipomoea wangii C.Y. Wu, FoC

JACQUEMONTIA Choisy

Jacquemontia paniculata (Burm.f.) Hall.f., FSE, FM, FoC

Convolvulus parviflorus Vahl, FIC,

Jacquemontia pentantha (Jacq.) G. Don, FSE, FM (cultivated)

Convolvulus zimmermannii Gagnep., FIC

LEPISTEMON Blume

Lepistemon binectariferum (Wall.) Kuntze, FSE, FM, FoC

Lepistemon flavescens Blume, FIC

MERREMIA Dennst. ex Endl.

Merremia bambusetorum Kerr, FSE

Merremia cissoides (Vahl) Hall.f.

Merremia collina S.Y. Liu, FoC [non sensu 10G, which is *M. subsessilis*]

Merremia dissecta (Jacq.) Hall. f., FM, FoC

Merremia emarginata (Burm.f.) Hall.f., FSE, FM, FoC

Merremia gemella (Burm.f.) Hall.f., FSE, FM, FoC

Ipomoea polyantha Miq. FIC

Merremia hederacea (Burm.f.) Hall.f., FSE, FM, FoC

Ipomoea chryseides Ker Gawl., FIC

Merremia hirta (L.) Merr., FSE, FM, FoC

Ipomoea linifolia Blume, FIC

Merremia kingii (Prain) Kerr, FSE

Ipomoea kingii Prain; *Ipomoea cymosa* Roem. & Schult. var. *macra* C.B. Clarke

Merremia mammosa (Lour.) Hall.f., FM

Ipomoea gomezii C.B. Clarke, in part, FIC

Merremia peltata (L.) Merr., FSE, FM

Merremia quinata (R. Br.) Ooststr., FSE, FM, FoC

Ipomoea quinata R. Br., FIC

Merremia subsessilis (Courchet & Gagnep.) N.T. Nhan [Reference: Nhan 1990]

Ipomoea subsessilis Courchet & Gagnep., FIC; Misapplied: *M. collina* sensu 10G

Merremia tuberosa (L.) Rendle, FM (cultivated)

Merremia umbellata (L.) Hall.f. ssp. **orientalis** (Hall.f.) Ooststr., FSE, FM, FoC

Ipomoea cymosa Roem. & Schult., FIC; *I. tonkinensis* Gagnep.; *Merremia tonkinensis* (Gagnep.) N.T. Nhan

Merremia verruculosa S.Y. Liu, FoC

Merremia vitifolia (Burm. f.) Hall. f., FSE, FM, FoC

Ipomoea vitifolia (Burm. f.) Sweet, FIC

NEUROPELTIS Wall. in Roxb. [Reference: Ooststroom, 1942]

Neuropeltis indochinensis Ooststr.

Neuropeltis racemosa Wall., FIC, FSE, FM, FoC

OPERCULINA S. Manso [Reference: Ooststroom, 1939]

Operculina petaloidea (Choisy) Ooststr., FSE

Ipomoea petaloidea Choisy, FIC

Operculina petaloidea (Choisy) Ooststr. var. **pauciflora** (C.B. Clarke) Parmar

Operculina riedeliana (Oliver) Ooststr., FM

Operculina turpethum (L.) S. Manso, FSE, FM, FoC

Ipomoea turpethum (L.) R. Br., FIC

PORANA Burm. f.

Porana volubilis Burm.f., FIC, FSE, FM (cultivated)

PORANOPSIS Roberty [Reference: Staples 1993]

Poranopsis discifera (Schneider) Staples, FoC

Porana discifera Schneider, FSE

REMIREMA Kerr [Reference: Kerr, 1943]

Remirema bracteata Kerr, FSE

RIVEA Choisy [Reference: Mill, 1996]

Rivea clarkeana Craib, FSE

Rivea laotica Ooststr. [Reference: Ooststroom, 1957]

STICTOCARDIA Hall.f. [Reference: Austin et al., 1978]

Stictocardia beraviensis (Vatke) Hall. f. (cultivated)

Stictocardia tiliifolia (Desr.) Hall. f., FSE, FM, FoC

Argyreia tiliaefolia (Desr.) Wight, FIC

TRIDYNAMIA Gagnep.

[Reference: Staples, 1993]

Tridynamia bialata (Kerr) Staples

[Reference: Staples, 2004]

Porana bialata Kerr, FSE

Tridynamia megalantha (Merr.) Staples, FoC

Porana megalantha Merr.; *P. sutepensis* Kerr FSE; *Tridynamia eberhardtii* Gagnep.

Tridynamia spectabilis (Kurz) Parmar

Porana spectabilis Kurz, FIC, FSE, FM, FoC,

XENOSTEGIA D.F. Austin & Staples

[Reference: Austin & Staples, 1980]

Xenostegia tridentata (L.) D.F. Austin & Staples

Ipomoea angustifolia Jacq., FIC; *I. tridentata* (L.) Roth, FIC; *Merremia hastata* (Desr.) Hall. f., FSE; *Merremia tridentata* (L.) Hall. f., FM; *M. tridentata* subsp. *hastata* (Desr.) Ooststr., FM;

ACKNOWLEDGEMENTS

The first author wishes to thank the curators, faculty, staff, and students who made possible access to herbarium specimens at BCU, BK, BKF, CMU, PSU, QBG and the herbaria of Chiang Mai University, College of Pharmacy, and Khon Kaen University, Dept of Biology. Their hospitality and helpfulness are warmly appreciated. Additional visits and/or loans to study specimens were made possible by curators at A, AAU, B, BM, C, E, G, GH, K, L, LINN, MEL, P, S, UPS, US. Dr Kongkanda Chayamarit and the entire BKF staff are also warmly thanked for facilitating herbarium study in Thailand for four weeks and for innumerable kindnesses and much assistance. This material is based upon work supported by the U.S. National Science Foundation under Grant No. 0212762 to George Staples.

LITERATURE CONSULTED

- Austin, D. F. 1977. *Ipomoea carnea* Jacq. vs. *Ipomoea fistulosa* Mart. ex Choisy. *Taxon* 26: 235–238.
- _____. 1980. Convolvulaceae. In: Dassanayake, M. D. & F. R. Fosberg (eds.), *A revised handbook to the flora of Ceylon*, vol. 1: 288–363. Amerind Publishing Co. Pvt Ltd, New Delhi.
- _____. 1991. *Ipomoea littoralis* (Convolvulaceae)—taxonomy, distribution, and ethnobotany. *Economic Botany* 45: 251–256.
- _____. 1998. The indiscriminate vector: human distribution of *Dichondra micrantha* (Convolvulaceae). *Economic Botany* 52: 88–106.
- _____. 1999. The genus *Aniseia* (Convolvulaceae). *Systemate Botany* 23: 411–420.
- Austin, D. F. & S. A. Ghazanfar 1979. Convolvulaceae. In: Nasir, E. & S. I. Ali (eds). *Flora of West Pakistan* 126: 1–64.
- _____. & G. W. Staples. 1980. *Xenostegia*, a new genus of Convolvulaceae. *Brittonia* 32: 533–536.
- _____, D. A. Powell, & D. H. Nicolson. 1978. *Stictocardia tiliifolia* (Convolvulaceae) re-evaluated. *Brittonia* 30: 195–198.
- Chang, C.-E. 1978. Convolvulaceae. *Flora of Taiwan*. 4: 347–389. Taipei, Epoch Publ. Co.
- Fang R.-C. & G. W. Staples. 1995. Convolvulaceae. In: Wu, Z.-I. & P. S. Raven (ed). *Flora of China* 16: 271–325. Science Press, Beijing, and Missouri Botanical Garden, St. Louis.
- Gagnepain, F., & Courchet, L.D.J. 1915. Convolvulacées. In: *Flore Générale de l'Indo-Chine* 4: 228–313.
- Heine, H. 1984. Convolvulaceae. In: *Flore de la Nouvelle-Calédonie et dépendances* 13: 1–91.
- Hoogland, R. D. 1952. The Convolvulaceae of Malaysia, VIII. The genus *Argyreia* in the Malay Peninsula. *Blumea* 7: 179–192.
- _____. 1953a. *Florae Malesianae* precursors II. The Convolvulaceae of Malaysia IX. New species of *Erycibe*. *Blumea* 7: 310–319.
- _____. 1953b. A review of the genus *Erycibe* Roxb. *Blumea* 7: 342–361.
- Kerr, A. F. G. 1943. *Remirema bracteata*. *Hook. Icon. Pl.* 35: tab. 3435.
- _____. 1951. Convolvulaceae, in *Florae Siamensis Enumeratio* 3(1): 89–100.
- _____. 1954. Convolvulaceae (concluded), in *Florae Siamensis Enumeratio* 3(2): 1–35.
- Khan, M. S. 1985. *Convolvulaceae* In, *Flora of Bangladesh*. Dhaka, Bangladesh Agricultural Research Council. 59 pp.
- Khunwasi, C., B. Na Songkhla, P. Traiperm & G. Staples. 2005. Four new combinations in *Argyreia* Lour. (Convolvulaceae). *Thai Forest Bulletin (Botany)* 33: 42–43
- La Valva, V. & S. Sabato. 1983. Nomenclature and typification of *Ipomoea imperati* (Convolvulaceae). *Taxon* 32: 110–132.
- Manitz, H. 1974. Zur Lectotypisierung der Namen einiger Convolvulaceen-Gattungen. *Feddes Repert.* 85: 629–640.
- _____. 1977. Was ist *Ipomoea violacea* L.? *Feddes Repert.* 88: 265–271.
- Mill, R. R. 1996. Notes relating to the Flora of Bhutan: XXXIV. Convolvulaceae. *Edinb. J. Bot.* 53: 229–246.
- _____. 1999. Convolvulaceae. In: Long, D.G. (ed.) *Flora of Bhutan* 2(2): 834–862.

- Myint, T. 1968. A taxonomic revision of the genus *Bonamia* (Convolvulaceae). *Phytologia* 17: 121–239.
- Nhan, N. T. 1990. Convolvulaceae, pp. 173–186. In: Averyanov, L.V., et al., *Vascular plants synopsis of Vietnamese flora*. Vol. 1. Leningrad, Nauka. [in Russian].
- Nicolson, D. H., C. R. Suresh, & K. S. Manilal. 1988. *An interpretation of Van Rheede's Hortus Malabaricus*. *Regnum Vegetabile* 119: 1–378. Koeltz, Königstein.
- Ooststroom, S. J. van. 1934. A monograph of the genus *Evolvulus*. *Meded. Bot. Mus. Herb. Rijks. Univ. Utrecht* 14: 1–267.
- _____. 1938. The Convolvulaceae of Malaysia, I. The genera *Cuscuta*, *Dichondra*, *Evolvulus*, *Bonamia*, *Neuropeltis* and *Porana*. *Blumea* 3: 62–94.
- _____. 1939. The Convolvulaceae of Malaysia, II. *Blumea* 3: 267–371.
- _____. 1940. The Convolvulaceae of Malaysia, III. The genus *Ipomoea*. *Blumea* 3: 481–582.
- _____. 1942. On the Asiatic species of *Neuropeltis* Wall. (Convolvulaceae). *Blumea* 5: 268–273.
- _____. 1943. The Convolvulaceae of Malaysia, IV. The genera *Mina*, *Lepistemon*, *Stictocardia* and *Argyreia*. *Blumea* 52: 339–411.
- _____. 1950. The Convolvulaceae of Malaysia, VI. The genus *Argyreia* Lour. in the Philippine Islands. *Blumea* 6: 337–348.
- _____. 1952. The Convolvulaceae of Malaysia, VII. New and noteworthy species of *Argyreia* from Malaysia. *Blumea* 7: 171–178.
- _____. 1957. *Rivea laotica*, a new species from Indo-China (Convolvulaceae). *Blumea* 8(2): 525–527.
- Ooststroom, S. J. van & R. D. Hoogland. 1953. Convolvulaceae. In Steenis, G. J. van. *Flora Malesiana* I, 4: 388–512. [Addenda, corrigenda, and emendanda in 4: 599. 1954; 5: 558–564. 1958; 6: 936–941. 1972; 7: 823. 1976; 9: 558. 1982; 10: 716. 1989.]
- Songkhla, B.N. & C. Khunwasi. 1993. The study of ten genera of Thai Convolvulaceae. *Thai Forest Bulletin (Botany)* 20: 1–92.
- Staples, G. W. 1993. New combinations in the tribe Poraneae (Convolvulaceae) for the Flora of China. *Novon* 3(2): 198–201.
- _____. 1996. The identity of *Ipomoea staphylina* (Convolvulaceae) in Asia. *Taiwania* 41: 185–196.
- _____. 2004. New combinations in Thai Convolvulaceae. *Thai Forest Bulletin (Botany)*. 32: 149–150
- Staples, G. W. & S.-Z. Yang. 1998. Convolvulaceae, in *Flora of Taiwan*, second edition, 4: 341–384. Edited and published by the Editorial Committee, *Flora of Taiwan*, Second Edition. Taipei.
- Tharp, B. C. & M. C. Johnston. 1961. Recharacterization of *Dichondra* (Convolvulaceae) and a revision of the North American species. *Brittonia* 13: 346–360.
- Traiperm, P. 2002. Taxonomic study in *Argyreia* Lour (Convolvulaceae) in Thailand. M.Sc. thesis. Dept. of Botany, Chulalongkorn University, Bangkok. 143 pp.
- Verdcourt, B. 1971. The genus *Cardiochlamys* Oliv. (Convolvulaceae). *Kew Bull.* 26: 137–140.