Flora of Thailand: annotated checklist of Gesneriaceae

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ABSTRACT. A checklist of Gesneriaceae in Thailand is presented, expanding on that of E.C. Barnett in Florae Siamensis Enumeratio. Fourteen new species and one new subspecies are described; one new combination is validated.

INTRODUCTION

The basis of this list is Dr E. C. Barnett's account of the Gesneriaceae in Florae Siamensis Enumeratio 3(3): 196–238. 1962 (F.S.E.). Entries consisting merely of a species name indicate that no new information has come to light. However, no attempt has been made to record additional material or minor extensions of range. References are only given where correction to F.S.E. usage is necessary, or for new entries.

One or two more general comments are necessary. Robert Brown's account of Gesneriaceae in Bennett's *Plantae Javanicae Rariores* (1840) was first issued as a separate independent pre-print, *On Cyrtandreae*, in December 1839. References to this publication have been given where appropriate: pagination is the same as in the book. It is to be noted that some of Wallich's Catalogue (= Numerical List) names were validated in Brown's work, either because he gave a brief description or because, in the classificatory synopses that he gave for one or two genera, a solitary species appears under the descriptive heading. On the other hand when there are two or three species under a single heading without further differentiation, they remain effectively *nomina nuda*. For example *Aeschynanthus acuminatus*, occurring under a single morphological heading with two other species, was not validated, whereas *A. longicaulis* occurring as a solitary species, was validated. Names such as these, validated by a later author rather than the one who originated them, are given in the form *Aeschynanthus longicaulis* [Wall. ex] R.Br. The enclosure of 'Wall. ex' in square brackets shows that it only has historical importance and should be dropped in ordinary use: it is incorrect to drop 'ex R.Br.' and cite only Wallich.

Incorrect determinations in F.S.E., where found, are corrected, but no attempt has been made to verify all the specimens quoted. This would, in any event, be an extremely laborious task as the herbaria where specimens are located are not usually indicated in F.S.E.

I have noted under a number of species that further material would be especially welcome, but in practice any good herbarium specimens would help, especially the eastern borders, where there are already indications that some species in neighbouring

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countries are also found on Thai territory. Disjunctions between Vietnam and Thailand are very probably due to lack of collecting in Laos. Seeds of Gesneriaceae are always welcome, both for the study of seedlings and for possible work on DNA characteristics, and I shall be grateful for additions, suggestions and corrections to this list.

Although considerably enlarged compared with F.S.E., I am well aware that this list is incomplete: there are specimens in herbaria that I have been unable to identify as yet. I hope the appearance of this checklist will encourage more collecting in areas that have seldom been visited by botanists.

THE CHECKLIST

List of genera (arranged alphabetically, not in F.S.E. sequence)

Aeschynanthus
Boea
Boeica
Calcareoboea
Chirita
Chlamydoboea = *Paraboea*
Corallodiscus
Cyrtandra
Cyrtandromoea - transferred to Scrophulariaceae.
Damrongia
Dichiloboea = *Trisepalum*
Didissandra s. s. does not occur in Thailand. Species previously referred to it are now under *Ridleyandra*.
Didymocarpus
Epithema
Henckelia
Kaisupeea
Leptoboea
Loxocarpus = *Henckelia*
Lysionotus
Monophyllaea
Orchadocarpa does not occur in Thailand. *Rabil* 123 is *Paraboea amplifolia*.
Oreocharis
Ornithoboea
Paraboea
Petrocosmea
Rhynchoglossum
Rhynchotechum
Ridleyandra
Stauranthera
Streptocarpus
Tetraphyllum
Trisepalum

AESCHYNANTHUS Jack

Aeschynanthus acuminatus [Wall. ex] A. DC., Prodr. 9: 263. 1845.

Aeschynanthus andersonii C.B. Clarke, Comm. & Cyrt. Bengal, 75, t. 48B. 1874.

Note.— This is the earliest name in the group that includes *A. hildebrandii*, *A. hosseusianus*, *A. humilis* and *A. persimilis*. The group is under more detailed study.

Aeschynanthus fecundus P. Woods, Notes R.B.G. Edinb. 33: 482. 1975.— *A. parviflorus* sensu Ridl. non Spreng.— *A. breviflorus* Ridl., Fl. Mal. Pen. 2: 497. 1923, non (S. Moore) K. Schum.

Note.— The type of this species is *Ridley* 13599 (K) from Pahang. The two collections from Thailand cited by Woods were both from cultivated material and unlocalised: *Sorensen, Larsen & Hansen* P. 1958/995 (C) and *Larsen* 103, cult. at E as C. 5838 (E).

Aeschynanthus fulgens [Wall. ex] R.Br., Cyrtandr., 115. 1839.

Thailand.— NORTHERN: Mae Hong Son [*Winit T. Komes* s. n. (BKF)].

Note.— This and *A. macranthus* (Merrill) Pellegr. may belong to the same species.

Aeschynanthus garrettii Craib

Aeschynanthus gracilis C.B. Clarke

Aeschynanthus hildebrandii Hemsl.

Note.— This species = ? *A. andersonii*; see under this species.

Aeschynanthus hosseusianus Kr.

Note.— This species = *A. persimilis* Craib. Based on the same type number = *A. andersonii* C.B. Clarke ?

Aeschynanthus hosseusii Pellegr.

Aeschynanthus humilis Hemsl.

Note.— This species = ? *A. andersonii*; see under this species.

ALINEATUS Craib

Alineatus longicaulis [Wall. ex] R.Br., Cyrtandr., 116. 1839.

Alineatus longiflorus A.DC.

Note.— The doubtful record in F.S.E. is confirmed by *Larsen* 42294 (AAU) from Yala.

Alineatus macranthus (Merr.) Pellegr.

Note.— Perhaps not distinct from *A. fulgens* R.Br.

Alineatus macrocalyx Hosseus, nom. illegit. (non C.B. C1arke) = *A. hosseusii.*

Alineatus marmoratus T. Moore = *A. longicaulis.*

Alineatus monetarius Dunn, Kew Bull. 1920:˙135. 1920.

Thailand.— NORTHERN: Tak [*Mrs M. Smith's collector* 1924 (ABD)].

Alineatus persimilis Craib = *A. andersonii* ? - see under this species.

Alineatus radicans Jack

Alineatus speciosus Hook., Bot. Mag., t. 4320. 1847.

Alineatus stenosiphonius W. T. Wang, Bull. Bot. Res. 3(4): 49. 1983.

Thailand.— NORTHERN: Chiang Mai [Wiang-Pa-Pao, Wiang Phrao, 19°22′N, 99° 13′E, *Hayata* s. n. (holotype TI, not seen)].

Alineatus superbus C.B. Clarke

BOEA Lam.

Boea acutifolia Ridl. = *Paraboea acutifolia.*

Boea divaricata Ridl. = *Paraboea divaricata.*

Note.— Not yet recorded from Thailand: Malaysian Langkawi only.

Boea geoffrayi Pellegr., Bull. Bot. Soc. France 72: 425. 1926.

Thailand.— NORTH-EASTERN: Si Sa Ket [Dongrak Range, *Maxwell* 76-575 (L)].

Boea glabriflora Barnett = *Paraboea glabriflora.*

Note.— *Put* 1836, mentioned in F.S.E., is *Paraboea brunnescens.*

Boea glabrisepala (B.L. Burtt) Barnett = *Paraboea glabrisepala.*

Boea harroviana Craib = *Paraboea harroviana.*

Boea herbacea C.B. Clarke = *Kaisupeea herbacea.*

Boea hygrometrica (Bunge) R.Br.

Note.— Not yet known from Thailand. Material so named is *B. wallichii.*

Boea kerrii Craib = *Paraboea kerrii.*

Boea lanata Ridl.

Note.— This plant = *Paraboea lanata*, but is only known from Pulau Langkawi. *Rabil* 301 is *Paraboea rabilii.*

Boea lancifolia Ridl. = *Paraboea lancifolia.*

Boea minor Barnett = *Paraboea minor.*

Boea multiflora R.Br. = *Paraboea multiflora.*

Boea reticulata Barnett = *Paraboea multiflora.*

Boea suffruticosa Ridl. = *Paraboea suffruticosa.*

Boea wallichii R.Br., Cyrtandr. 120 1839.— *B. hygrometrica* of F.S.E., non (Bunge) R.Br.

Note.— See Burtt, Edinb. J. Bot. 56(3): 372. 1999.

BOEICA Lam.

Boeica fulva C.B. Clarke

Note.— This species is not yet known to occur in Thailand. The specimen (*Put* 428) cited as 'certainly near this species' is now referred to *B. glandulosa.*

Boeica sp. aff. **B. brachyandra** Ridl., J. Roy. As. Soc. Str. Br. 44: 78. 1905.

Thailand.— PENINSULAR: Phangnga [Khao Phra Mi, 9°17′N, 98°26′E, in evergreen forest, 60 m, 9 July 1972, *Larsen et al.* 30801 (AAU, E, NI)].

Note.— *Boeica brachyandra* was described from Gunung Chinchang, near Kwala Malacca, Pulau Langkawi. Its position in *Boeica* needs confirmation. Likewise the above specimen needs comparison with the type of *B. brachyandra* at SING.

Boeica sp. aff. **B. ferruginea** Drake

Thailand.— NORTHERN: Nan [near village of Pa Sing, 25 km N of Nan, E side of Nan River, 7 Dec. 1957, *Walker* 7991 (US)].

Note.— *Boeica ferruginea* was described from Vietnam (Tonkin, route from Phuongham to Cho-bo, 14 Nov. 1887, on calcareous rocks, *Balansa* 4296). According to the generic descriptions in the *Flora of China* (ed. Wu & Raven, 18: 286–287. 1998) this species should have been placed in *Leptoboea* on account of its opposite leaves. However, as explained in the note on *Leptoboea*, I am making no generic changes in these two genera until it is possible to reach a more confident decision on whether they should be merged or kept distinct.

Boeica glandulosa B.L. Burtt **sp. nov.** cum *B. fulva* C.B. Clarke ad hoc confusa sed inflorescentia et calyce glanduloso (nec dense fulvo-sericeo) statim distinguenda. *B. multinerviae* K.Y. Pan fortasse proxima sed caulibus crassioribus (4–7 mm diam., nec 2 mm tantum), pedunculis multo brevioribus 9–30 mm (nec 60–100 mm) divaricatim ramosis et pilis glanulosis indutis, pedicellis 3–10 mm (nec 0.4–2.5 mm) uti pedunculis glandulosis differt. Typus: Thailand, Chiang Mai, Tin Tok, 10 km N of Doi Chiang Dao, 3 Aug. 1968, *Larsen, Santisuk & Warncke* 3077 (holotypus AAU; isotypus BKF).

Thailand.— NORTHERN: Chiang Rai [Khunkhon Waterfall Forest Park, 700 m, 10 July 1998 (fl), *S. Wongpakam* KK945 (CHU, E) & 11 Oct. 1997 (fr), *S. Wongpakam* 396 (CHU, E)]; Chiang Mai [Huai Yang, Chiang Dao, *Adisai* 687 (BK); S of Chiang Dao 19°14′N, 98°55′E, 400 m, *Larsen et al.* 2551 (AAU, BKF); Tin Tok, 10 km of Doi Chiang Dao, 600 m, pink fls, 3 Aug. 1968 *Larsen, Santisuk & Warncke* 3077 (holotype AAU; isotype BKF); Doi Chiang Dao, *Put* 428 (ABD); Pong Pho, 12 km N of Doi Chiang Dao, 800 m, *Larsen et al.* 2985; Doi Chiang Dao, *Bunchuai* 225 (BKF)].

Distribution.— MYANMAR: [S Shan States, Keng Ting, 350 m, Oct. 1909, *Macgregor* 1000 (CAL, E)].

Ecology.— Evergreen forest, alt. 350–800 m.

Note.— The above citations suggest that *B. glandulosa* is quite widespread in Northern Thailand. The species is quite distinct from *B. fulva* by its glandular pedicels and calyx: these organs are densely sericeous in true *B. fulva*.

Boeica sp. aff. **B. glandulosa** B.L. Burtt

Thailand.— NORTHERN: Phitsanulok [foothill of Phu Miang Mountain, 27 July 1966, *Larsen et al.* 926 (AAU, BKF)].

Note.— This species differs from *B. glandulosa* in having a more-or-less glabrous inflorescence, glabrous calyx and white flowers. The specimen is scarcely adequate for description.

CALCAREOBOEA [C.Y. Wu ex] H.W. Li

Calcareoboea bonii (Pellegr.) B.L. Burtt **comb. nov**.— *Didymocarpus bonii* Pellegr., Bull. Soc. Bot. France 83: 416. 1926.

Thailand.— NORTH-EASTERN: Khon Kaen [Pha Nok Khao, 400–500 m, limestone, *Smitinand & Sleumer* 1140 (BKF)].

Note.— The inclusion of this species in *Calcareoboea* is controversial, for that genus was established on the basis of its bright red zygomorphic corolla with four upper lobes and a lower lip of one lobe. This pattern, however, is one associated with the pollination mechanism of the plant, and such features are known to be unreliable as sole generic criteria. *Calcareoboea bonii* has a shortly companulate, light-coloured corolla, but its rosette of perennial leaves makes its position in *Didymocarpus* untenable. This habit is, however, also a feature of *Calcareoboea*, so, even if the floral characters are ignored, it could not be properly placed in *Didymocarpus*. The solution is therefore to transfer *D. bonii* (and the allied *D. hancei* Hemsl. from China) to *Calcareoboea*. A fuller justification of this course will be given elsewhere.

CHIRITA Buch.-Ham.

Note.— There are many problems in this genus. *Damrongia* Kerr was reduced to a synonym of *Chirita* by D Wood when he revised the genus (Notes R.B.G. Edinb. 33: 123–205 1974) and I leave it there for the time being, largely because the characteristic

short fruit is also found in *Chirita fulva*. There are also several groups where species limits are very uncertain: this part of the list will very probably require a fair amount of revision before the Flora account is published.

Chirita anachoreta Hance

Chirita aratriformis D. Wood, Notes R.B.G. Edinb. 31: 367. 1972 & 33: 197. 1974.

Thailand.— NORTH-EASTERN: Khon Kaen [Pha Nok Khao, S of Loei, near Phu Kradueng, 250–350 m, fls blue, *Charoenphol, Larsen & Warncke* 4585 (BKF); Pha Nok Khao, 600–700 m, fls pale blue, *Smitinand & Sleumer* 1129 (BKF)].

Note.— Previously only known from the type specimen from Vietnam (Tonkin). *Chirita barbata* Sprague - probably a mis-determination for Thailand.

Chirita bimaculata D. Wood, Notes R.B.G. Edinb. 31: 368. 1972 & 33: 196. 1974.

Thailand.— NORTHERN: Chiang Mai [Mae Klang Falls, 50 km NW of Chiang Mai, 430 m, *Burtt* 5611 (holotype E)].

Note.— Perhaps no more than a form of *C. micromusa.*

Chirita brevipes C.B. Clarke = *C. speciosa* Kurz

Chirita caerulea R.Br. Cyrtandr., 117 (1839); D. Wood, Notes R.B.G. Edinb. 33: 200. 1974.— *C. kerrii* Craib (fide D. Wood).

Chirita capitis Craib = *C. involucrata* Craib (fide D. Wood).

Chirita cyanea (Ridl.) B.L. Burtt, Notes R.B.G. Edinb. 26: 267. 1965.

Thailand.— PENINSULAR: Surat Thani [Khao Phra Rahu, 200 m, *Smitinand & Sleumer* 1151 (E)].

Note.— Perhaps a synonym of *C. lacunosa*, but its much finer, longer calyx segments enjoin caution.

Chirita elphinstonia Craib

Chirita fulva Barnett

Note.— See comments under the genus *Damrongia.* Wood (Notes R.B.G. Edinb. 33: 150. 1974) described the fruit of this species as 7.5 cm long (instead of 7.5 mm). He thus missed the opportunity of recognising the possibility of an affinity with *Chirita (Damrongia) purpureolineata.*

Chirita hamosa R.Br., Cyrtandr., 117. 1839.

Chirita integra Barnett

Chirita involucellata Craib = *C. involucrata* Craib (fide D. Wood)

Chirita involucrata Craib

Chirita kerrii Craib = *C. caerulea* R.Br.

Chirita lacunosa (Hook.f.) B.L. Burtt, Notes R.B.G. Edinb. 26: 2 67. 1965.— *Didymocarpus lacunosus* Hook.f., Bot. Mag., t. 7236. 1892.

Thailand.— PENINSULAR: Satun [Ko Tarutao, *Curtis* s.n.].

Note.— The shorter, broader calyx lobes seem to mark this off from *C. cyanea*, but further material, and field observations, on both species are needed.

Chirita macrophylla Wall.

Chirita marcanii Craib

Chirita micromusa B.L. Burtt

Notes.— The type of *C. micromusa* was grown in the Jardin Botanique de Montreal from seed collected in Central Thailand at Nakhon Nayok by Raymond & Smitinand in December 1957.

As noted above *C. bimaculata* may be no more than a form of this. This species also needs careful comparison with *C. marcanii* Craib. Tem Smitinand noted on his specimen (Nakhon Nayok, Nang Rong Fall, Oct. 1960, *Smitinand* 6984 (BKF)) 'flowers yellow, turning orange with dark orange patch in the throat'. Flower colour, especially as seen on dried specimens, may be an unreliable character in this group.

Chirita mollissima Ridl.

Notes.— Two recent collections of this plant show a marked difference in the length of the capsules: Nai Chong, Khap Thong Thai, 30 m, 19 Jan. 69, *Hansen & Smitinand* 11997 (C, E) - fruit 4.5–5.5 cm; Ao Luk, 8°25′N, 99°45′E, 8 Oct. 1970, *Charoenphol, Larsen & Warncke* 3444 (AAU, E) - fruit 1–2.5 cm.

I naturally looked up Ridley's original description and found that he described 'capsula pollicaris', that is 2.5 cm as in *Charoenphol et al.* 3444. However. the interest lies in Ridley's notes: 'Under the same number I have from Mr Curtis a somewhat similar plant with a well-developed stem with rather remote leaves and a long slender capsule. This may be a distinct species, but the flowers appear similar and Mr Curtis thinks it is identical.' It is to be hoped that someone will find a population of this interesting plant and be able to study the fruit lengths. Are there two distinct morphs, or is the variation continuous ?

Chirita oculata Craib

Chirita pumila D. Don

Chirita purpureolineata (Kerr) D. Wood, Notes R.B.G. Edinb. 31: 371. 1972 & 33: 152 1974.— *Damrongia purpureolineata* Kerr, Kew Bull. 1918: 364. 1918.

Note.— Wood recorded 'Fruit not known', but this was an oversight; Kerr had already described it 'capsula 5–7 mm longa, in calyce inclusa, valvis demum ad summum apicem liberis'. The short fruit suggests that *Damrongia* may need to be excluded from *Chirita*: see note under *C. fulva* above. However, these plants have nothing to do with the short-fruited genus *Chirstopsis* W.T. Wang described from China.

Chirita rotundata Barnett

Chirita rupestris Ridl.

Chirita smitinandii B.L. Burtt **sp. nov.** ob habitum acaulem et calycis segmenta parce dentata *C. poilanei* Pellegr. affinis, sed folics, late ellipticis acutis vel acuminatis utrinque breviter pubescentibus (nec supra sparsim pilosis subtus praecipue ad nervos villoso-pilosis), ovario et capsula pubescente (nec glabro) inter alia distinguitur. Typus: Thailand, Nakhon Ratchasima, Khao Yai National Park, 6 Oct. 1962, *Smitinand* 7491 (holotypus BKF).

Thailand.— EASTERN: Nakhon Ratchasima [Khao Yai National Park, 900–1000 m, 6 Oct. 1962, *Smitinand* 7491 (holotype BKF); Khao Yai National Park, *Beusekom & Charoenphol* 1758 (BKF); Khao Yai National Park, *Kasem* 69 (BKF).

Distribution.— Only known from Thailand.

Note.— This species is distinguished by the bracts being united on both sides, forming a cup. In *C. caerulea* R.Br. they are united on one side only.

Chirita speciosa Kurz, J. Bot. (Lond.) 11: 195. 1873; D. Wood, Notes R.B.G. Edinb. 33: 180. 1974.— *C. brevipes* C.B. Clarke in A.DC. & C.DC., Mon. Phan. 5(1): 120. 1883.— *C. trailliana* Smith & Forrest, Notes R.B.G. Edinb. 9: 95. 1916.

Chirita trisepala Barnett

Chirita tubulosa Craib

Chirita viola Ridl.

CORALLODISCUS Batalin

Corallodiscus lanuginosus (R.Br.) B.L. Burtt, Gard. Chron. Ser. 3, 122: 212. 1947.— *C. patens* (Craib) B.L. Burtt (this was the name used in F.S.E.).

Note.— The genus is only known from Doi Inthanon and nearby in Thailand, but in China there are numerous closely related plants and as many as 12 species have been recognised. However, in the preparation of *Flora of China* (ed. Wu & Raven, 18: 283. 1998) these names have all been reduced to synonyms of *C. lanuginosus* and it seems best to follow that practice here.

CYRTANDRA J. R. Forst. & G. Forst.

Cyrtandra cupulata Ridl.

Note.— Of the cited material, only *Kerr* 7118 & 7118A belong to this species: all the other specimens are *C. wallichii*.

Cyrtandra dispar DC.

Note.— *Kerr* 13223 and *Ploenchit* 142 do not belong here: they are *C. patula*.

Cyrtandra patula Ridl., J. Roy. As. Soc. StR.Br. 86: 303. 1922.

Thailand.— PENINSULAR: Surat Thani [Khao Nong, *Kerr* 13223 (K)]; Nakhon Si Thammarat [Khao Luang, *Ploenchit* 142 (BKF); Khao Luang, 750 m, *Hansen & Smitinand* 12081 (BKF)].

Note.— Distinguished from *C. dispar* by its non-flaky bark, by both leaves of a pair being well developed and by broadly triangular calyx-lobes.

Cyrtandra pendula Blume, Bijdr. 14: 768. 1826.— *C. rotundifolia* (Ridl.) Barnett in F.S.E. 3(3): 197. 1962.— *C. bicolor* Jack var. *septentrionalis* Ridl., J. Fed. Mal. St. Mus. 10: 104. 1922.

Note.— A variable species. If studied over its whole range (which includes the Malay Peninsula, Sumatra and Java) some geographical patterning of variation seems likely.

Cyrtandra wallichii (C.B. Clarke) B.L. Burtt, Notes R.B.G. Edinb. 36: 179. 1978.— *C. decurrens* De Vriese var. *wallichii* C.B. Clarke in A.DC. & C.DC., Mon. Phan. 5(1): 232. 1883.— ? *C. gimlettei* Ridl., J. Roy. As. Soc. Str. Br. 49: 21. 1908.

Note.— If the plants in Thailand are consistently of dwarf stature it may be that *C. gimlettei* should be revived for them. It was described from Kelantan, Malaysia, whereas *C. wallichii* came originally from Penang. The group needs thorough study. As noted above, most of the material quoted in F.S.E. under *C. cupulata* belongs here. If there proves to be only one species, the name *C. gimlettei* has precedence.

CYRTANDROMOEA Zoll.

Note.— This genus has been transferred to Scrophulariaceae and is dealt with in Flora of Thailand 5(2): 154. 1990.

DAMRONGIA Kerr

Note.— The genus was reduced to *Chirita* by D. Wood (Notes R.B.G. Edinb. 33 (1): 152. 1974, and is temporarily left there, but may be worth reviving, in which case *Chirita fulva* Barnett may possibly belong to it. Curiously, Wood does not discuss this

reduction, and there are two errors in his account that show he had no knowledge of the important character of a short fruit. Under *Chirita purpureo-lineata* (the type of *Damrongia*) he writes 'Fruit not known'. Kerr, however, had described it: 'capsula 5–7 mm longa, in calyce inclusa, valvis demum ad summum apicem liberis'. For *C. fulva* Wood wrote 'Fruit 7. 5 cm × 2 mm', whereas Barnett, correctly, gave the length of a young fruit as 0. 5 cm: a later specimen shows it as 7.5 mm. In both species the fruit does not exceed the persistent calyx. More material of these species is needed.

DIDISSANDRA C.B. Clarke s.s.

Note.— Does not occur in Thailand. For plants previously placed here, see under *Ridleyandra*.

DIDYMOCARPUS Wall.

Note.— The genus has been split up and many species are now transferred to *Henckelia* Spreng. The Thai species transferred are *Didymocarpus crinitus*, *D. flavus*, *D. hispidas*, *D.* (*Loxocarpus*) *incanus*, *D. inaequalis*, *D. platypus*, *D. reptans* and *D. regosus*. The plant recorded as *D. pumilus* in F.S.E. is now found under *H. filicalyx* (See Weber & Burtt, Beitr. Biol. Pflanzen 70: 293–363. 1998).

Didymocarpus aureo-glandulosus C.B. Clarke; Hilliard & Burtt, Edinb. J. Bot. 52(2): 215. 1995.— *D. rodgeri* var. *siamensis* W. W. Sm.

Note.— *Larsen* 6148 = *D. insulsus* C.B. Clarke.

Didymocarpus bicolor Craib

Note.— *Dee* 998 from Phu Kradueng, quoted under *D. ovatus*, belongs here.

Didymocarpus biserratus Barnett.— *D. siamensis* Barnett.

Note.— I cannot see any valid difference between the types of these two names, and both come from Phu Kradueng, Loei province.

Didymocarpus corchorifolius R.Br.; Weber & Burtt, Blumea 29: 291. 1983.

Didymocarpus dongrakensis B.L. Burtt **sp. nov.** *D. insulso* Craib affinis sed foliis minoribus maximis 80–110 × 20–30 mm (nec ad 210 x 100 mm), inflorescentiis folia superantibus (nec foliis brevioribus), corolla breviore (ad l9 nec 25mm) antheris glabris recedit. Typus: Thailand, Si Sa Ket, Chong But Lak, 17 Aug. 1976, *Maxwell* 76-531 (holotypus AAU; isotypi BK, L).

Thailand.— EASTERN: Si Sa Ket [Kantharalak distr., Dongrak Range, Chong But Lak, 14°30′N, 104°E, calyx and corolla violet, 17 Aug. 1976, *Maxwell* 76-531 (holotype AAU; isotypes BK, L)].

Distribution.— Only known from Thailand.

Ecology.— On moist sandstone rocks along a shaded stream in evergreen forest, 500 m.

Didymocarpus epithemoides B.L. Burtt **sp. nov.** *D. biserrato* Barnett arcte affinis sed folio infimo maximo saepissime singulo, ramis inflorescentiae pilis glandulosis praeditis (nec glabris), calyce breviore anguste campanulato 5–6.5 mm longo (nec 10 mm, tubuloso), antheris pilis plus minusve rectis vel, curvatis haud intertextis (nec dense lanatis) recedit. Typus: Prachin Buri, Khao Yai National Park, Khao Khiao, 20 July 1963, *Larsen et al.* 10683 (holotypus E; isotypi AAU, C, E)].

Thailand.— EASTERN: Nakhon Ratchasima [Khao Yai National Park, *Larsen, Smitinand & Warncke* 51 (BKF), *Shimizu et al.* 19742 (BKF), *Beusekom & Charoenphol* 1757 (lowest leaves paired at BKF, solitary at E)]; SOUTH-EASTERN: Prachin Buri [Khao Yai National Park, Khao Khiao, 1350 m, fls red-violet, 20 July 1963, *Larsen et al.* 10683 (holotype E; isotypes AAU, C, E)].

Distribution.— Only known from Thailand.

Ecology.— Evergreen forest, humid rocks.

Didymocarpus geesinkianus B.L. Burtt **sp. nov.** inter species siamenses calcye bilabiato (3 sepalis dorsalibus ad medium connatis, 2 sepalis inferioribus ad basin liberis) distincta. Ab hac charactere *D. lineicapsae* (C.E.C. Fischer) B.L. Burtt ex "Assam" (hodie Mizoram) similis sed in pagina inferiore foliorum glandulis cruciformibus coloratis praedita (nec glandulis globosis laete aurantiacis), calycis labio superiore ad medium circa trilobo (nec apice tantum tridentato), sepalis inferioribus ovatis (nec linearibus), corollae labio superiore integro (nec bilobo), antheris dorso leviter barbatis (nec glandulis globosis brevissime stipitatis et pilis paucis glandulosis ad 0.5 mm longis instructis) longe differt. Typus: Ranong, Khao Pawta Luang Keow, 22 June 1974, *Geesink, Hattink & Charoenphol* 7416 (holotypus L; isotypi AAU, BKF).

Thailand.— PENINSULAR: Ranong [Khao Pota Luang Kaeo, 8°50′N, 99°E, calyx pink, corolla tube and lobes purple, ventral part of tube white, undersurface of leaves white, 22 June 1974, *Geesink, Hattink & Charoenphol* 7416 (holotype L; isotypes AAU, BKF)].

Distribution.— Only known from Thailand.

Ecology.— Evergreen forest on shale, alt. 700–900 m.

Didymocarpus insulsus Craib

Note.— *Larsen* 6148, quoted in F.S.E. under *D. aureo-glandulosus*, from Phu Kradueng belongs here.

Didymocarpus kerrii Craib.— *D. squamosus* Craib.

Didymocarpus megaphyllus Barnett

Didymocarpus newmannii B.L. Burtt **sp. nov.** in penere paullo anomala et nulli arcte affinis. Habitu, cucule erecto pro maxime parte aphyllo sed apice folius subrenticallatis

grosse dentatis ca. 4 praedito. Calyx fere ad basin quinquefidus. Corolla alba oblique coampanulata; stamina 2, filamentis ad apices glanduloso-pilosis, anteris leviter barbatis; fructus glaber 10 × 1.6 mm, quadrisul et demum quadrivalvis, seminibus 0.5 mm longis vable papillosis. Typus: Thailand, Chanthaburi, Khao Khitchakut, 20 June 1999, *Newman* 926 (holotypus E).

Thailand.— SOUTH-EASTERN: Chanthaburi [Khao Khitchakut, 12°34′N, 102°16′E, leaves very pale below, stems & petioles pink, fls white, 20 June 1999, *Newman* 926 (holotype E)].

Distribution.— Known only from Thailand.

Ecology.— Wet granite rock faces.

Didymocarpus ovatus Barnett

Note.— *Dee* 998 from Phu Kradueng is *D. bicolor* and the reference in F.S.E. to young capsules being slightly pubescent refers only to this sheet.

Didymocarpus purpureo-pictus Craib

Didymocarpus rodgeri var. **siamensis** W.W. Sm. = *D. aureo-glandulosus*.

Didymocarpus siamensis Barnett = *D. biserratus*.

Didymocarpus tristis Craib

Didymocarpus venosus Barnett

Note.— Under study; almost certainly not a *Didymocarpus*. More material and viable seed are needed.

Didymocarpus wattianus Craib

Note.— This is another species for which Craib failed to record the original locality.

EPITHEMA Blume

Epithema brunonis (Wall.) Decne.

Note.— Does not occur in Thailand.

Epithema carnosum Benth.

Note.— Perhaps on Doi Chiang Dao. Most of the material cited here in F.S.E. belongs to *E. saxatile* Blume

Epithema membranaceum (King) Kiew, Malay. Nat. 38(3): 36. 1985.

Note.— *Kerr* 15775 cited in F.S.E. as *E. carnosum* belongs here.

Epithema saxatile Blume

Note.— Most of the material cited under *E. carnosum* belongs here.

Epithema sp.

Note.— Recorded from the Doi Suthep area by J.F. Maxwell. An interesting unifoliate plant, so far known only from a single population that is uniform for this feature.

HENCKELIA Spreng.

Notes.— For the revised definitions of *Didymocarpus* and *Henckelia* and for the reasons why the latter name has been adopted for most of the more tropical species hitherto placed in *Didymocarpus*, see the article *Remodelling of Didymocarpus and associated genera (Gesneriaceae)* by Weber & Burtt (Beitr. Biol. Pflanzen 70, 1997: 293–363. 1998). As explained there, *Henckelia* is given a wide coverage: five sections are recognised, and because the species are so diverse it has seemed helpful to arrange them according to the sections rather than in a single alphabetical order. All the species of *Henckelia* that are found in Thailand are confined to the south of the country, and all the four sections represented in Thailand have more numerous species in Peninsular Malaysia and in Sumatra and Borneo, though they tail off rapidly further east. The fifth section, *Henckelia* sect. *Henckelia* is restricted to S India and Sri Lanka. (= *Didymocarpus* sect. *Orthoboea* Benth.)

The following simplified key to the sections applies only to the Thai species.

1. Rosette plants: flowers with very short tube and ? flat limb; fruit short, swollen on upper side near base
sect. **Loxocarpus**

1. Caulescent plants
  2. Leaves opposite — sect. **Didymanthus**
  2. Leaves alternate
    3. Internodes well developed; nectary tongue-like placed below the ovary and often 3-toothed at the tip
sect. **Glossadenia**
    3. Internodes very short, leaves usually crowded at top of woody stem; nectary cupular surrounding the base of the ovary — sect. **Heteroboea**

Sect. **Loxocarpus** (R.Br.) A. Weber & B.L. Burtt, Beitr. Biol. Pflanzen 70: 334. 1998.— *Loxocarpus* R.Br., Cyrtandr., 120. 1839; Barnett in Fl. Siam Enum. 3(3): 220. 1962.— *Didymocarpus* sect *Loxocarpus* (R.Br.) Benth. in Benth. & Hook.f., Gen. Pl. 2: 1022. 1876.

Henckelia browniana A. Weber, Beitr. Biol. Pflanzen 70: 341. 1998.— *Loxocarpus incanus* R.Br. non *Henckelia incana* (Vahl) Spreng.— *Roettlera alata* O. Kuntze non *Henckelia alata* (Roxb.) A. Dietr. (= *Torenia alata* (Roxb.) Benth.).

Note.— As already noted by Dr Barnett (Fl. Siam. Enum. 3(3): 221. 1962), the plants referred here are very variable in size and shape of leaves. A critical study of floral characters has yet to be made, and a careful comparison of the larger specimens with *H. caerulea* (Ridl.) A. Weber is needed. The distributional note in F.S.E. is incorrect; this species does not occur in Borneo.

Sect. **Didymanthus** (C.B. Clarke) A. Weber & B.L. Burtt, Beitr. Biol. Pflanzen 70: 334. 1998.— *Didymocarpus* sect. *Didymanthus* C.B. Clarke in A.DC. & C.DC., Mon. Phan. 5(1): 82. 1883.

Henckelia filicalyx B.L. Burtt **sp. nov.** *H. malayanae* (Hook.f.) A. Weber proxime affinis sed habitu semper serpente, floribus axillaribus solitariis, calycis lobis filiformibus 12 mm longis (nec elliptico-oblongis 4–5 mm longis) facile distinguitur. Typus: Thailand, Narathiwat, Nikhom Waeng, 4 March 1974, *K. & S. Larsen* 32914 (holotypus AAU; isotypus E).

Thailand.— PENINSULAR: Yala [Kue Long, *Smitinand & Seidenfaden* 11026 (BKF, fr. only; cult. E under 702124 & fl. Feb. 1971); Betong, *Kerr* 7468 (K) & *Kerr* 7562 (K)]; Narathiwat [Sungai Kolok, Nikhom Waeng, 5°50′N, 101°50′E, fls yellowish green, leaves silvery, 4 March 1974, *K. & S. Larsen* 32914 (holotype AAU; isotype E); Nikhom Waeng, *Prayad* 407 (BK) & *Smitinand* 10940 (BKF)].

Distribution.— Only known from Thailand.

Ecology.— Evergreen forest, 300–500 m.

Note.— At first confused with the straggling form of *H. malayana* from western Malaysia (Perak & Selangor), but distinguished at a glance by its solitary flowers and much longer (ca. 12 mm) filiform calyx lobes. *Kerr* 7468 and *Kerr* 7562 were quoted in F.S.E. as *D. pumilus* Ridl. a quite different species with pale purple sub-campanulate flowers.

Henckelia flava (Ridl.) A. Weber, Beitr. Biol. Pflanzen 70: 344. 1998.— *Didymocarpus flavus* Ridl., J. Linn. Soc. Bot. 32: 507. 1886.

Note.— The occurrence of this species in Thailand still rests solely on Ridley's record of it from Bandon (Fl. Mal. Pen. 2: 510. 1923). I have not seen the relevant specimen.

Henckelia hispida (Ridl.) A. Weber, Beitr. Biol. Pflanzen 70: 346. 1998.— *Didymocarpus hispidus* Ridl., J. Linn. Soc. Bot. 32: 507. 1886.

Henckelia kolokensis B.L. Burtt **sp. nov.** nulli arcte affinis; corolla inferne per recte tubulosa deinde ventraliter paullo ampliata, limbo bilabiato, labio inferiore porrecto 8 mm longo apice trilobo, labio superiore fere ad basin bilobo; flores fusco-purpurei, labio inferiore viridi-albo. Pedunculi graciles ad 3 seriatim ex axillis foliorum producti, 50–75 mm longi; flores paucis cymose dispositi. Capsula ad 20 mm longa unilateraliter fissa. Typus: Thailand, Narathiwat, Nikhom Waeng, 4 March 1974, *K. & S. Larsen* 32913 (holotypus AAU; isotypus E).

Thailand.— Narathiwat [Sungai Kolok, Nikhom Waeng, 5°50′N, 107°50′E, 300–500 m, 4 March 1974, *K. & S. Larsen* 32913 (holotype AAU; isotype E)].

Distribution.— Only known from Thailand.

Ecology.— Alt. 300–500 m.

Note.— This species has corolla nearly 2 cm long, the lower lip exceeding the upper, flowers dark purple with greenish white underlip, yellow hairs on the palate.

Henckelia porphyrea B.L. Burtt **sp. nov**. floribus solitariis *H. hirtae* (Ridl.) A. Weber affinis, sed floribus intensius coloratis, et tubo et lobis purpureis (nec tubo albo in fauce tantum purpureo-lineatis lobis atque albis) differt. *H. hispidae* (Ridl.) A. Weber etiam affinis, sed floribus solitariis (nec pluribus cymosis) et ab speciebus ambabus corolla extra glanduloso-pubescente (nec glabra) distinguitur. Typus: Thailand, Ranong, Khao Pota Luang Kaeo, 22 June 1974, *Geesink, Hattink & Charoenphol* 7417 (holotypus BKF; isotypus AAU).

Thailand.— PENINSULAR: Ranong [Khao Pota Luang Kaeo, 8°50′N, 99°E, 22 June 1974, *Geesink, Hattink & Charoenphol* 7417 (holotype BKF; isotype AAU); Khao Pota Luang Kaeo, *Kerr* 17533 (K) & *K. & S. Larsen* 33476 (AAU)].

Distribution.— Only known from Thailand.

Ecology.— Alt. 700–1300 m.

Note.— *Kerr* 17533 was quoted among plants allied to *Didymocarpus hispidus* in F.S.E.; the other plants quoted with it have yet to be checked. The corolla seems to be more deeply coloured than in *H. hispida*.

Henckelia reptans (Jack) Spreng., Syst. Veg. ed. 16, 4(2): 14. 1827.

var. **monticola** (Ridl.) A. Weber, Beitr. Biol. Pflanzen 70: 354. 1998.— *Didymocarpus reptans* Jack var. *monticola* Ridl., J. Linn. Soc. Bot. 32: 511. 1886.

Sect. **Glossadenia** A. Weber & B.L. Burtt, Beitr. Biol. Pflanzen 70: 335. 1998.

Henckelia inaequalis (Ridl.) A. Weber, Beitr. Biol. Pflanzen 70: 347. 1998.— *Didymocarpus inaequalis* Ridl., J. Linn. Soc. 32: 506. 1896.

Thailand.— PENINSULAR: Songkhla [Hat Yai, *Pradit* 287 (BK); Hat Yai, Kho Hong Hill, *Maxwell* 84-249 (PSU) & 85-1184 (PSU); Hat Yai, *Sirirugsa* 770 (PSU); Khao Nam Khang, Na Thawe S of Chana, *Larsen et al.* 42429 (AAU)].

Note.— This species was first described from Gunung Chinchang, Pulau Langkawi, Malaysia.

Sect. **Heteroboea** (Benth.) A. Weber & B.L. Burtt, Beitr. Biol. Pflanzen, 70: 334. 1998.— *Didymocarpus* sect. *Heteroboea* Benth. in Benth. & Hook.f., Gen. Pl. 2: 1022. 1876.

Notes.— Dr Barnett (in Fl. Siam. Enum. 3(2): 212. 196. 1962 under *Didymocarpus*) reported considerable difficulty in dealing with *Henckelia crinita* and *H. platypus*, and she grouped a number of specimens as lying between the two. The position has been slightly eased by recognition that a third species, *H. rugosa* is involved: but problems remain. One reason why progress is difficult is that neither *H. crinita* nor *H. platypus* seem to occur in Thailand in their typical forms. However, one cannot reach decisions simply by comparing peripheral forms with the types and both species show considerable variation in other parts of their ranges. A fourth, as yet undescribed, species enumerated below does not seem to be involved in the difficulties that surround the other three.

Looking at the material immediately available to me, I have reached the following tentative conclusions:

1. *H. crinita* s.s. is not yet recorded from Thailand. The specimens referred to this species differ in the direction of *H. platypus* and are therefore grouped as *crinita/platypus*.

2. Thai *H. platypus* is not typical, but its deviant features (shaggy indumentum, tendency to develop definite internodes, more hairy leaf-surface) are not those of other Thai species, and the specimens can therefore be referred to *H. platypus* s.l.

3. *H. rugosa* must be added to the Thai list. It is most easily distinguished from *H. platypus* by the different leaf venation: the main lateral veins are more numerous and more closely spaced and the tertiary veins usually run direct from one lateral to another without branches or anastomoses or with these occurring rarely. Specimens showing a distinct mixture of the two patterns of tertiary venation are grouped as *platypus/rugosa*.

4. The immediately available material of sect. *Heteroboea* amounts to 26 specimens which I classify as:

(a) *H. crinita/platypus*
(b) *H. platypus* s.l.
(c) *H. platypus/rugosa*
(d) *H. rugosa*
(e) *H. appressipilosa*

5. The geographical distribution of these five groups deserves mention. Two localities have been much visited. I have seen 11 specimens from Nikhom Waeng (Narathiwat), seven from Khao Luang (Nakhon Si Thammarat) and eight from scattered localities.

From Nikhom Waeng:	(a) *H. crinita/platypus*	4 sheets
	(b) *H. platypus* s.l.	4 sheets
	(d) *H. rugosa*	1 sheet
	(e) *H. appressipilosa*	2 sheets
From Khao Luang:	(c) *H. platypus/rugosa*	7 sheets
Scattered Localities	(d) *H. rugosa*	8 sheets

All collections seen have been straightforward: collectors have given no indication of mixed populations, or distinct species at any locality. Of course, the sample is small; the plants (in terms of a herbarium sheet) are fairly large, so that one sheet usually means a single plant. This means that conditions for detecting hybridisation in the herbarium are very poor. Nevertheless, there is clearly a situation in the field that is well worth detailed study.

Henckelia crinita (Jack) Spreng, Syst. Veg. ed. 16, 4(2): 13. 1827.— *Didymocarpus crinitus* Jack, Malayan Misc. 1(2): 1. 1820; Trans. Linn. Soc. 14: 33. 1823.

Note.— None of the material yet seen from Thailand can be referred to *H. crinita*.

Henckelia crinita/platypus

Thailand.— PENINSULAR: Narathiwat [Nikhom Waeng, *Prayad* 428 (BK), *Prayad* 28A (BK) & *K. & S. Larsen* 32662 (AAU); Sine loc., *Winit* BKF5573 (BKF)].

Henckelia platypus (C.B. Clarke) A. Weber, Beitr. Biol. Pflanzen 70: 352. 1998.— *Didymocarpus platypus* C.B. Clarke in A.DC. & C.DC., Mon. Phan. 5(1): 94. 1883.

Thailand.— PENINSULAR: Pattani [Bukit, *Kiah* 24252 (K)]; Narathiwat [Nikhom Waeng, *P. Nitrasirirak* 203 (BKF, E) & *K. & S. Larsen* 32846 (AAU); Sungai Padi, Chatwarin, *Larsen et al.* 42217 (AAU)].

Note.— The specimens cited above may be referred to *H. platypus* in the broad sense (Clarke cited specimens from a number of localities but as yet no lectotype has been chosen). The Thai specimens differ from Malaysian material in having stems and pedicels with dense, shaggy, shining hairs and more long hairs on the upper leaf surface that do not break off so often to leave a stubby hair base, and the areoles formed by the tertiary venation are less marked.

Henckelia platypus/rugosa

Thailand.— PENINSULAR: Nakhon Si Thammarat [Khao Luang *Smitinand* 917 (BKF, E), *Smitinand* 1045 (BKF,E), *Hennipman* 3827 (BKF), *Tagawa et al.* T.4638 (BKF, E), *Tagawa et al.* T.4661 (BKF), *Iwatsuki et al.* T.14520 (BK7) & *Beusekom & Phengkhlai* 759 (BKF, E)].

Henckelia rugosa (Ridl.) A. Weber, Beitr. Biol. Pflanzen 70: 355. 1998.— *Didymocarpus rugosus* Ridl., J. StR.Br. Roy. As. Soc. 44: 145. 1905; Fl. Malay Penins. 2: 517. 1923.

Thailand.— PENINSULAR: Surat Thani [Khao Sok N.P., 2000 m, *Woodgyer* 3 (K); Khao Sok N.P., *Larsen et al.* 40900 (AAU)]; Phangnga [Khao Pranu, fls white, *S. Suthusorn* 2448 (BK); Khao Kata Kwan (W of Tap Put), 900 m fls white, *Kerr* 18436 (ABD)]; Trang [Chawang, 300 m, fls bluish purple, *Put* 277 (BKF 10571); Khao Chong, 950 m, *Tagawa et al.* 6853 (E, KYO)]; Satun [Khao Khao range, 600–700 m, fls white tinted pink, *Kerr* 14514 (ABD)]; Narathiwat [Nikhom Waeng, *Smitinand & Seidenfaden* s.n. (BKF)].

Note.— This species differs from both *H. crinita* and *H. platypus* in the closer and more numerous lateral veins and in the tertiary venation which runs direct and unbranched between the main lateral nerves.

Henckelia appressipilosa B.L. Burtt **sp. nov.** *H. crinitae* (Jack) Spreng. affinis sed foliis obovato-ellipticis petiolo incluso ca. 20 cm longis et 7 cm latis, supra dense et appresse pilosis, venis lateralibus numerosis ca. 28 utrinsecus costae supra regione petiolari plerumque inter se ca. 5–6 mm distantibus, venis tertiariis anastomosantibus gynoecio primum patenter piloso, fructu subglabro distinguenda. Typus: Thailand, Narathiwat, Nikhom Waeng, 2 March 1974, *K. & S. Larsen* 32803 (holotypus AAU).

Thailand.— PENINSULAR: Narathiwat [Vang, fls white, Sept. 1966, *Prayad* 378 (BK, L); Sungai Kolok, Nikhom Waeng, 5°50′N, 105°50′E, fls white, 2 March 1974, *K. & S. Larsen* 32803 (holotype AAU)].

Distribution.— Only known from Thailand.

Ecology.— Along stream.

Note.— Differs conspicuously from other species of sect. *Heteroboea* in Thailand and nearby in having its leaves densely covered on both sides with appressed hairs. Close spacing of the lateral veins recalls *H. rugosa*, but, when the indumentum is scraped away, the tertiary venation between the laterals shows a strong anastomosing pattern.

LEPTOBOEA Benth.

Note.— This genus is very closely allied to *Boeica*, which is the older name. I refrain from reducing it to synonymy while information on such characters as seed-coats, pollen, fruit anatomy and chromosome number are lacking. If, as in *Flora of China* (ed. Wu & Raven), emphasis is placed on opposite versus alternate leaves, *Boeica ferringinea* and its allies should be placed in *Leptoboea*.

Leptoboea multiflora (C.B. Clarke) Gamble, Man. Indian Timbers 274. 1881; C.B. Clarke in A.DC. & C.DC., Mon. Phan. 5(1): 165. 1883; in Hook.f., Fl. Brit. Ind. 4: 368. 1884.

subsp. **multiflora**

Thailand.— NORTHERN: Chiang Mai [vicinity of Chiang Mai or Doi Suthep, 8 Aug. 1921, *Kerr* s. n. (BM)].

Note.— The specimen is not localised, but I give here the area in which Kerr collected between 3 July and 24 October 1921 (fide Jacobs in Blumea 11: 455. 1962).

subsp. **grandifolia** B.L. Burtt **subsp. nov**. a subsp. *multiflora* differt foliis in ramis primariis persistentibus et inflorescentias axillares subtendentibus, ramulis axillaribus abbreviatis hand productis. Folia majora cujusque paris usque ad 110–180 × 40–95 mm (nec 35–150 × 15–65 mm). Typus: Thailand, Chanthaburi, Khao Phra Bat, Kathing Falls, 26 Aug. 1972, *Larsen et al*. 32065 (holotypus AAU; isotypi E, K).

Thailand.— SOUTH-EASTERN: Chanthaburi [Khao Phra Bat, 12°52′N, 102°10′E, 300 m, Kathing Falls, 26 Aug. 1972, *Larsen et al*. 32065 (holotype AAU; isotypes E, K)]. Additional specimens, all from Central and South-eastern Thailand are: *Beusekom & Smitinand* 2094 (BKF), *Chermsirivatana* 412 (BKF), *Kerr* 9232 (K), *Larsen et al*. 3197 (AAU), *Larsen et al*. 3392 (AAU), *Maxwell* 71-586 (BKF), *Sakol* 291 (BKF), *Smitinand* 3467 (BKF) & *Smitinand* 10448 (BKF)].

Distribution.— Only known from Thailand.

Ecology.— Evergreen forest.

Notes.— There is a distinct difference in the growth patterns of the two subspecies of *Leptoboea multiflora*. In the typical plant from N India the leaves of the main shoot have not been seen; they fall before the flowers open (when the earliest herbarium specimens are made). The flowers are borne in inflorescences axillary to the leaves of the short shoots that are themselves axillary to the leaves on the mainshoot. In subsp. *grandifolia* the inflorescences are axillary to the leaves of the main shoots and dwarf

shoots are not formed. The comparison of leaf-sizes given above is not strictly valid: those for subsp. *grandifolia* refer to main shoot leaves, while those of subsp. *multiflora* are for short-shoot leaves. Nevertheless, they are what will be seen on herbarium sheets. The difference in growth-patterns, which may reflect different climatic regimes, and the large geographical disjunction justify subspecific separation.

LYSIONOTUS D. Don

Lysionotus serratus D. Don

Note.— The large-leaved glabrous form from Doi Chiang Dao may merit intraspecific distinction, but more material from elsewhere in Thailand is needed for comparison.

MONOPHYLLAEA R.Br.

Monophyllaea glabra Ridl.

Monophyllaea glabra × **Rhynchoglossum obliquum** Blume ?

Thailand.— PENINSULAR: Surat Thani [Khao Sok, 26 Dec. 1976, *Santisuk* 858 (BKF); Khao Sok, *Shimizu et al.* 27066 (BKF, L)].

Note.— This plant was at first taken to be an anomalous species of *Rhynchoglossum*, its unusual features being the branched inflorescence arising from the middle of the petiole, the pedicels being sharply deflexed after flowering, and the short open-mouthed (ringent) corolla – not closed (personate) as in *Rhynchoglossum*. The considerable changes required in the generic descriptions of either *Rhynchoglossum* or *Monophyllaea* enjoined caution, and it now seems much more likely that the plant is of hybrid origin. Clearly this plant should be sought anew and seed, if formed, should be collected.

Monophyllaea horsfieldii R.Br.

ORCHADOCARPUS Ridl.

Note.— This genus is not known from Thailand. *Orchadocarpa* sp. ? of F.S.E. is *Paraboea amplifolia*.

OREOCHARIS Benth.

Oreocharis hirsuta Barnett

Ooreocharis obovata Barnett = *Ridleyandra flammea*

ORNITHOBOEA [Parish ex] C.B. Clarke

Ornithoboea arachnoidea (Diels) Craib

Ornithoboea barbanthera B.L. Burtt

Ornithoboea flexuosa (Ridl.) B.L. Burtt

Ornithoboea multitorta B.L. Burtt **sp. nov**. cymis elongatis monochasialibus *O. flexuosam* (Ridl.) B.L. Burtt revocans sed capsulis multitortis (nec vix tortis) sepalis duplo longioribus (nec aequilongis ut dixit Ridley) pubescentibus (nec glabris) facile distinguitur. Typus: Thailand, Phatthalung, Si Ban Phot, Khao Pu-Khao Ya N. P., 14 July 2000, *Middleton et al*. 444 (holotypus E; isotypus A).

Thailand.— PENINSULAR: Phatthalung [Si Ban Phot, Khao Pu-Khao Ya N. P., 7° 40′N, 99°52′E, 140 m, lowland evergreen forest, crevices in limestone, 14 July 2000, *Middleton et al*. 444 (holotype E; isotype A); Khao Pu-Khao Ya N.P., *Maxwell* 86-700 (BKF); Ban Phot, *Shimizu et al*. T.27241 (BKF)].

Distribution.— Only known from Thailand.

Ecology.— Lowland evergreen forest crevices in limestone.

Note.— The specific name is taken from the small, tightly twisted fruit.

Ornithoboea occulta B.L. Burtt **sp. nov.** *O. henryi* Craib affinis ovario glandulis breviter pedicellatis praedito (nec piloso), calyce albido capsulam occulente, capsula 6 mm (nec 15 mm) longa distincta. Typus: Thailand, Kanchanaburi, between Huai Ban Kao and Kriti, 4 July 1973, *Geesink & Phengklai* 6078 (holotypus E; isotypi AAU, BKF).

Thailand.— SOUTH-WESTERN: Kanchanaburi [between Huai Ban Kao and Kriti, 15°N, 98°50′E, 500 m, 4 July 1973, *Geesink & Phengklai* 6078 (holotype E; isotypes AAU, BKF); Thong Pha Phum, *Maxwell* 73-105 (AAU, BK); Huai Lum Ko Ngo, Si awat, *Suthasorn* 2490 (BK)].

Distribution.— Only known from Thailand.

Ecology.— Bamboo dominated mixed deciuous forest on limestone hill.

Note.— The specific name is taken from the short fruit being hidden in the calyx.

Ornithoboea pseudoflexuosa B.L. Burtt

Ornithoboea wildeana Craib

Note.— I retain this name for the Thai species for the time being. It is said to differ from *O. lacei* Craib because the anterior corolla lobes are entire, whereas in *O. lacei* they are notched. But they were notched in plants raised in Edinburgh from seed of *Smitinand* 7361 and I therefore called this *O. lacei* at the time. However, the type specimens of *O. lacei* were apparently monocarpic in the wild: the stem base has numerous leaf-scars (almost certainly more than a single year's growth) below the current leaves at the base of the terminal flowering stem. This is not shown on any specimens of *O. wildeana*. Further Burmese specimens of *O. lacei* are now needed to solve this problem. Whether the Chinese *O. calcicola* H.W. Li is distinct also needs investigation.

PARABOEA (C.B. Clarke) Ridl.

Didymocarpus sect *Paraboea* C.B. Clarke

Paraboea acutifolia (Ridl.) B.L. Burtt, Notes R.B.G. Edinb. 41: 423. 1984; Burtt & Kit Tan, Notes R.B.G. Edinb. 41: 453–456. 1984.— *Boea acutifolia* Ridl.

Paraboea amplifolia Z. R. Xu & B.L. Burtt, Edinb. J. Bot. 48: 1. 1991.

Thailand.— PENINSULAR: Nakhon Si Thammarat [Khao Chem (Chim), Thunglung (Thungsong), *Rabil* 123 (holotype K; isotypes ABD, BM, E)].

Note.— This species was recorded as *Orchadocarpa* sp. ? in F.S.E.

Paraboea brunnescens B.L. Burtt, Notes R.B.G. Edinb. 41: 424. 1984.

Thailand.— SOUTH-WESTERN: Kanchanaburi [Erawan N. P., *Beusekom et al.* 3827A (holotype L; isotype C); Hat Phalom, *Larsen* 8958 (C); *Maxwell* 71-666 (AAU, BK)].

Paraboea burttii Z.R. Xu, Acta Phytotax. Sin. 35: 359. 1994.— *P. glabra* auctt., non (Ridl.) B.L. Burtt; Barnett in F.S.E. 3(3): 219. 1962, pro max. parte.

Thailand.— PENINSULAR: Nakhon Si Thammarat [Khiriwong, Khao Khi Nao, ca. 400 m, *Bunnak* 710 (holotype E); Thung Song, Khao Chem, *Rabil* 103 (BM), *Rabil* 106 (BM); Khiriwong, Thap Charing, 300 m, *Smitinand* 510 (BKF, E); hill above Ronphibun, *Kingdon Ward* SFN 37460 (K)]; Phatthalung [cult. in Bangkok, *Kerr* 205 (E), *Kerr* 19745 (E)].

Note.— The above material was at one time passing as *P. glabra*, which led to the true *P. glabra* being redescribed as *P. rupestris*. *Paraboea burttii* is very close to *P. speciosa*.

Paraboea chiengdaoensis Z.R. Xu & B.L. Burtt, Edinb. J. B. 48: 3. 1991.

Thailand.— NORTHERN: Chiang Mai [Doi Chiang Dao (Ban Chiang Dao), *Put* 430 (holotype K; isotypes ABD, BM)].

Note.— This species is only known from a fruiting specimen; flowers are greatly needed.

Paraboea dictyoneura (Hance) B.L. Burtt, Notes R.B.G. Edinb. 41: 427. 1984.

Note.— When this transfer was made the Thai *Boea harroviana* Craib was quoted as a synonym: that needs re-investigation.

Paraboea glabra (Ridl.) B.L. Burtt, Notes R.B.G. Edinb. 22: 311. 1958 & 41: 429. 1984.— *P. rupestris* B.L. Burtt, Notes R. B. Edinb. 41: 436. 1984.

Note.— The name *P. glabra* was wrongly applied to specimens now placed by Z.R. Xu as *P. burttii*: the true *P. glabra* had been re-described by Burtt as *P. rupestris*.

Paraboea glabrisepala B.L. Burtt, Kew Bull. 1941: 21. 1941.— *Boea glabrisepala* (B.L. Burtt) Barnett.

Paraboea glanduliflora Barnett

Note.— The capsule, not previously described, is 3.5 cm long, spirally twisted (*Bunchuai* 1198).

Paraboea (Boea) harroviana Craib

Note.— See note under *P. dictyoneura* above. The species has not yet been transferred to *Paraboea* as its rank is in doubt. As used recently it seems to cover a very variable complex.

Paraboea incudicarpa B.L. Burtt, Notes R.B.G. Edinb. 41: 430. 1984.

Thailand.— NORTHERN: Tak [Pha Wo, 650 m, on limestone rocks, common, 13 July 1972, *Smitinand & Seidenfaden* 11629 (E)].

Note.— This species is only known from fruiting specimens and flowering material is urgently needed to confirm the generic position.

Paraboea kerrii (Craib) B.L. Burtt, Notes R.B.G. Edinb. 41: 430. 1984.— *Boea kerrii* Craib.

Note.— This species is closely allied to *P. swinhoei* and perhaps better classified as a subspecies of it.

Paraboea lanata (Ridl.) B.L. Burtt.

Note.— Not yet known from Thailand. *Rabil* 301 quoted in F.S.E. (under *Boea*) is *P. rabilii* Xu & B.L. Burtt.

Paraboea lancifolia (Ridl.) B.L. Burtt, Notes R.B.G. Edinb. 41: 431. 1984.— *Boea lancifolia* Ridl.

Paraboea sp. aff. **P. laxa** Ridl.

Thailand.— PENINSULAR: Phuket [Kampengbet, up hill on rocks, *Kiah* 24376].

Note.— Further material of this species is needed before a decision on its status can be made with confidence.

Paraboea minor (Barnett) B.L. Burtt, Notes R.B.G. Edinb. 41: 433. 1984.— *Boea minor* Barnett.

Paraboea multiflora (R.Br.) B.L. Burtt, Notes R.B.G. Edinb. 41: 433. 1984.— *Boea multiflora* R.Br.— *Boea reticulata* Barnett.

var. **caulescens** Xu & B.L. Burtt, Edinb. J. Bot. 48: 7. 1991.

Thailand.— SOUTH-WESTERN: Kanchanaburi [Neecky, near Wangka, *den Hoed* Kwae Noi Expedition 946 (L)].

Paraboea patens (Ridl.) B.L. Burtt, Notes R.B.G. Edinb. 41: 435. 1984.— *Boea patens* Ridl.

Paraboea pubicorolla Xu & B.L. Burtt, Edinb. J. Bot. 48: 11. 1991.

Thailand.— EASTERN: Si Sa Ket [Dongrak Range, Ching Bat Lak, *Maxwell* 76-530 (holotype L; isotype BK)].

Paraboea rabilii Xu & B.L. Burtt, Edinb. J. Bot. 48: 11. 1991.

Thailand.— PENINSULAR: Trang [Khao Chom Lem, Amphoe Kaokao, *Rabil* 301 (holotype E; isotypes ABD, BKF, BM, K)].

Note.— This specimen was previously determined as *Boea lanata* or *B. lancifolia.*

Paraboea rufescens (Franch.) B.L. Burtt.— *P. tomentosa* Barnett.

Note.— The synonym requires careful checking and is the only basis for recording *Paraboea. rufescens* from Thailand.

Paraboea rupestris B.L. Burtt = *P. glabra* Ridl.

Paraboea sinensis (Oliv.) B.L. Burtt, Notes R.B.G. Edinb. 38: 471. 1980.— *Phylloboea sinensis* Oliv.— *Chlamydoboea sinensis* (Oliv.) Stapf.

Paraboea speciosa (Rech.) B.L. Burtt, Notes R.B.G. Edinb. 41: 438. 1984.— *Boea speciosa* Rech., Osterr. Bot. Z. 49: 145. 1899.

Note.— Described from a specimen cultivated at Vienna, but probably from Thailand and very close to *P. burttii* Xu.

Paraboea suffruticosa (Ridl.) Burtt, Notes R.B.G. Edinb. 41: 437. 1984.— *Boea suffruticosa* Ridl.

Note.— Not yet recorded from Thailand, only from the Malaysian Langkawi Is.

Paraboea swinhoei (Hance) B.L. Burtt, Notes R.B.G. Edinb. 41: 439. 1984.

Thailand.— NORTH-EASTERN: Khon Kaen [Pha Nok Khao, *Sleumer & Smitinand* 1130 (BKF)].

Paraboea tarutaoensis Xu & B.L. Burtt, Edinb. J. Bot. 48: 13. 1991.

Thailand.— PENINSULAR: Satun [Ko Tarutao, Malacca Creek, *Congdon* 10 (holotype E; isotype PSU)].

Paraboea trachyphylla Xu & B.L. Burtt, Edinb. J. Bot. 48: 13. 1991.

Thailand.— PENINSULAR: Surat Thani [Khao Lang Tao, *Smitinand & Sleumer* 1289 (holotype E; isotypes BKF, C, P)].

Paraboea uniflora Xu & B.L. Burtt, Edinb. J. Bot. 48: 15. 1991.

Thailand.— PENINSULAR: Songkhla, Sadao distr, Khao Rup Chang, Padang Besar, *Maxwell* 86-451 (PSU).

Paraboea variopila Xu & B.L. Burtt, Edinb. J. Bot. 48: 15. 1991.

Thailand.— PENINSULAR: Surat Thani, *Praphat* 8 (holotype E; isotype BKF).

PETROCOSMEA Oliv.

Note.— This genus was for long divided into just two sections: sect. *Petrocosmea* with the upper and lower lips of the corolla more or less equal in size, and sect. *Anisochilus* Hemsl., with the upper lip much smaller than the lower. Wang Wen-tsai (in Acta Bot. Yunnan. 7(1): 62. 1985) very properly recognised a third group which he named sect. *Deinanthera*, because the anthers are sharply contracted at the tip into a blunt apiculus that is tubular and out of which the dry pollen is squirted when a foraging insect presses against the anther sac. It is this section which is important in Thailand: sect. *Anisochilus* is not known to occur there and sect. *Petrocosmea* is represented only by the single collection of *P. umbelliformis*.

Petrocosmea formosa B.L. Burtt, The Gloxinian 1998(1): 15. 1998.

Thailand.— NORTHERN: Chiang Mai [Doi Chiang Dao, *Kerr* 5564 (K) & *Beusekom, & Phengklai* 1354 (BKF)].

Note.— For a time this species was cultivated in America as *P. kingii* (C.B. Clarke) Chatterjee, but that is a little known Burmese species from Mulayit Taung in Tenasserim, Myanmar; it is closer to *P. kerrii* than to *P. formosa*. *Kerr* 5564 was quoted as *P. kerrii* in F.S.E.

Petrocosmea heterophylla B.L. Burtt **sp. nov.** *P. menglianensi* H.W. Li et *P. grandifoliae* W.T. Wang affnis. A prima foliis petiolisque tenuioribus, corolla extra glabra (nec breviter pilosa), pilis calycis et ovarii longioribus, a *P. grandifolia* foliis supra pilis aequilongis parce indutis (nec pilis 0.5–1.5 et 2–3.5 mm longis intermixtis), petiolis tenuioribus, foliis interioribus minus pilosis distinguenda; ab ambabus corolla maculis aurantiacis basi labii superioris exceptis albis (nec fauce nigro- vel purpureo-notato) distinguenda. Typus: Thailand, Chiang Mai, Doi Chiang Dao, 7 Dec. 1965, *Hennipmann* 3258 (holotypus L; isotypus BKF).

Thailand.— NORTHERN: Chiang Mai [Doi Chiang Dao, 1500–1900 m, 7 Dec. 1965, *Hennipmann* 3258 (holotype L; isotype BKF); Doi Chiang Dao, various collectors, including *Sorensen, Larsen & Hansen* 1236, *Smitinand & Abbe* 626, *Smitinand & Anderson* 7229, *Hennipmann* 3258, *Smitinand, Poore & Robbins* 7846, *Murata, Iwatsuki & Phengklai* T-15034 & *Vidal* 5180].

Distribution.— Only known from Thailand.

Note.— This species produces small bladed leaves in autumn, but in spring the young leaves are densely mamillate when young but the mamillae are smoothed out as the leaf expands and the hairs then become well spaced. These leaves may persist through

to the beginning of the next spring when a single plant may show these old leaves, with long petioles and tattered blades, at the outside of the rosette, then the autumn/winter leaves with much smaller blades, and finally the mamillate young leaves of the new growing season.

Petrocosmea kerrii Craib

Thailand.— NORTHERN: Chiang Mai [Doi Suthep, *Kerr* 3361 (K); NE side, below summit, 1575 m, *Maxwell* 89-1028 (BKF)].

Note.— *Garrett* 529 (Doi Inthanon, Pha Khampheng, 1750 m), cited under *P. kerrii*, is a much smaller, more delicate plant and may represent *P. wardii* W. W. Sm. (described from Yunnan, *Kingdon Ward* 3772) which is cited in synonymy in F.S.E. Whether it should be revived as a distinct species is uncertain: further fieldwork is needed to find out if its characteristics are constant.

Petrocosmea umbelliformis B.L. Burtt **sp. nov.** sectionis *Petrocosmeae* ab speciebus aliis floribus albis corolla subregulari differt. Pedunculi graciles ad 70 mm longi, flores 4 subumbellatim gerentes, characteres distinctas etiam formant. Typus: Thailand, Chiang Mai, Teen Tok, 10 km N of Doi Chiang Dao, 2 Aug. 1968, *Larsen, Santisuk & Warncke* 3046 (holotypus AAU; isotypi BKF, E, P).

Thailand.— NORTHERN: Chiang Mai [Tin Tok, 10 km N of Doi Chiang Dao, white flowers, 2 Aug. 1968, *Larsen, Santisuk & Warncke* 3046 (holotype AAU; isotypes BKF, E, P).

Distribution.— Only known from Thailand.

Ecology.— Limestone boulders in evergreen forest, along stream, alt. 600 m.

Note.— This is the first record of *Petrocosmea* sect. *Petrocosmea* from Thailand.

RHYNCHOGLOSSUM Blume

Rhynchoglossum obliquum Blume.— *R. hologlossum* Hayata, Ic. Pl. Formos. 5: 131. 1915.— *R. obliquum* var. *hologlossum* (Hayata) W. T. Wang.

Note.— The epithet *hologlossum* has not so far been applied to Thai material, but the toothing of the lower lip of the corolla is a highly variable character, and is of no taxonomic significance.

Rhynchoglossum obliquum × Monophyllaea glabra ?

Note.— See under *Monophyllaea*

RHYNCHOTECHUM Blume

Rhynchotechum ellipticum [Wall. ex] A.DC. in DC., Prodr. 9: 285. 1846; B.L. Burtt, Notes R.B.G. Edinb. 24: 37. 1962.

Note.— This species does not occur in Thailand, and the use of the name to include *R. obovatum* (Griff.) B.L. Burtt (as in *Flora of China* ed. Wu & Raven, 18: 394. 1998) is incorrect. True *R. ellipticum* may be restricted to NE India; it is easily recognised by the scabrous (not silky-woolly) indumentum of the calyx and pedicels.

Rhynchotechum obovatum (Griff.) B.L. Burtt

Note.— Widespread in northern and central Thailand. Specimens from the peninsular area may grade (in their smaller inflorescences) into the following:

Rhynchotechum parviflorum Blume, Bijdr., 775. 1826.

Thailand.— PENINSULAR: Phangnga [15 km N of Takuapa, 8°53′N, 98°21′E, 50–150 m, 13 July 1972, *Larsen et al.* 30933 (AAU, E)].

Note.— The genus needs a critical revision.

RIDLEYANDRA A. Weber & B.L. Burtt

Didissandra auctt. non C.B. Clarke s.s.— *Didissandra* sect. *Speciosae* Ridl.

Ridleyandra flammea (Ridl.) A. Weber, Beitr. Biol. Pflanzen 70: 248. 1998.— *Didissandra flammea* Ridl., J. Linn. Soc. Bot. 32: 503. 1896.— *Oreocharis obovata* Barnett, Nat. Hist. Bull. Siam Soc. 20: 10. 1961. & F.S.E. 3(3): 211. 1962.

Ridleyandra kerrii A. Weber, Beitr. Biol. Pflanzen 70: 253 1998.— '*Didissandra* near *D. castaneifolia Ridl.*'; Barnett in F.S.E. 3(3): 211. 1962.

Ridleyandra latisepala (Ridl.) A. Weber, Beitr. Biol. Pflanzen 70: 250. 1998.— *Didissandra latisepala* Ridl.

Note.— This species, like *R. flammea*, was first collected by Machado, who sent material to Ridley in Singapore. It has not been found since. Machado was stationed at Legeh, but the type locality for both species was Toh Moh which, though very close to the Malaysian Border, is in Thailand.

STAURANTHERA Benth.

Stauranthera grandiflora Benth.

STREPTOCARPUS Lindl.

Streptocarpus orientalis Craib.

Note.— Molecular studies confirm doubts already expressed about the generic position of this species. It is not closely related to the African species of the genus, but its correct position is not yet clear.

TETRAPHYLLUM C.B. Clarke

Tetraphyllum bengalense C.B. Clarke

Note.— This species is not yet known from Thailand.

Tetraphyllum roseum Stapf, J. Linn. Soc. Bot. 32: 524. 1896.

Note.— Not to be cited as Stapf ex Ridley. *Haniff & Nur* 3659, quoted under *T. bengalense* in F.S.E., belongs here.

TRISEPALUM C.B. Clarke

Dichiloboea Stapf; Barnett in Fl. Siam. Enum. 3(3): 235. 1962.

Trisepalum acaule (Barnett) B.L. Burtt, Notes R.B.G. Edinb. 41: 443. 1984.— *Dichiloboea acaulis* Barnett.

Trisepalum albidum (Barnett) B.L. Burtt, Notes R.B.G. Edinb. 41: 445. 1984.— *Dichiloboea albida* Barnett.

Trisepalum amplexicaule (C.B. Clarke) B.L. Burtt, Notes R.B.G. Edinb. 41: 445. 1984.— *Boea amplexicaulis* C.B. Clarke.

Trisepalum birmanicum (Craib) B.L. Burtt, Notes R.B.G. Edinb. 41: 446. 1984.— *Didymocarpus birmanicus* Craib.— *Dichiloboea birmanica* (Craib) Stapf.

Trisepalum glabrescens (Barnett) B.L. Burtt, Notes R.B.G. Edinb. 41: 444. 1984.— *Dichiloboea glabrescens* Barnett.

Trisepalum glanduliferum (Barnett) B.L. Burtt, Notes R.B.G. Edinb. 41: 448. 1984.— *Dichiloboea glandulifera* Barnett.

Trisepalum longipetiolatum B.L. Burtt, Notes R.B.G. Edinb. 41: 447. 1984.

Thailand.— SOUTH-WESTERN: Ratchaburi [Linthin near King Sayok, 140 km NW of Kanchanaburi, *Kostermans* Kwae Noi Expedition 1380 (L); 5 km E of Sai Yok, 300 m, *Larsen* 8601 (C)].

Trisepalum robustum B.L. Burtt, Notes R.B.G. Edinb. 41: 443. 1984.

Thailand.— NORTHERN: Chiang Mai [Doi Chiang Dao, pine ridge, 1800 m, fls white, *Smitinand & Sleumer* 1021 (holotype E; isotype L)].

Note.— A more robust species than the purple-flowered *T. acaule* collected in the same area on the same day.

Trisepalum speciosum (Ridl.) B.L. Burtt, Notes R.B.G. Edinb. 41: 445. 1984.— *Phylloboea speciosa* Ridl.— *Dichiloboea speciosa* (Ridl.) Stapf.

Trisepalum strobilaceum (Barnett) B.L. Burtt, Notes R.B.G. Edin. 41: 445. 1984.— *Dichiloboea strobilacea* Barnett.

Trisepalum subplanum B.L. Burtt, Notes R.B.G. Edinb. 41: 443. 1984.

Thailand.— PENINSULAR: Krabi [Khao Thong Lang NW of Nai Chong, *Hansen & Smitinand* 12027 (holotype C; isotype BKF, L)].

SUMMARY OF NEW TAXA AND COMBINATIONS

1. **Boeica glandulosa** B.L. Burtt **sp. nov.**
2. **Calcareoboea bonii** (Pellegr.) B.L. Burtt **comb. nov.**
3. **Chirita smitinandii** B.L. Burtt **sp. nov.**
4. **Didymocarpus dongrakensis** B.L. Burtt **sp. nov.**
5. **Didymocarpus epithemoides** B.L. Burtt **sp. nov.**
6. **Didymocarpus geesinkianus** B.L. Burtt **sp. nov.**
7. **Didymocarpus newmannii** B.L. Burtt **sp. nov.**
8. **Henckelia filicalyx** B.L. Burtt **sp. nov.**
9. **Henckelia kolokensis** B.L. Burtt **sp. nov.**
10. **Henckelia porphyrea** B.L. Burtt **sp. nov.**
11. **Henckelia appressipilosa** B.L. Burtt **sp. nov.**
12. **Leptoboea multiflora** (C.B. Clarke) Gamble subsp. **grandifolia** B.L. Burtt **subsp. nov.**
13. **Ornithoboea multitorta** B.L. Burtt **sp. nov.**
14. **Ornithoboea occulta** B.L. Burtt **sp. nov.**
15. **Petrocosmea heterophylla** B.L. Burtt **sp. nov.**
16. **Petrocosmea umbelliformis** B.L. Burtt **sp. nov.**