Names and new combinations for Peninsular Malaysian species of *Codonoboea* Ridl. (Gesneriaceae)

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ABSTRACT. Five species are reinstated in *Codonoboea* Ridl. and new combinations are made for 74 species that occur in Peninsular Malaysia that were formerly included in *Henckelia* Spreng. *Codonoboea albina* (Ridl.) Kiew is reinstated at specific rank and var. *winkleri* (Ridl.) Kiew as a variety of *C. malayana* (Ridl.) Kiew. Lectotypes are designated where appropriate.

Keywords. *Codonoboea*, Gesneriaceae, nomenclature, Peninsular Malaysia, synonymy, taxonomy, typification

Introduction

Codonoboea Ridl. in its current wider sense is the largest genus of dicotyledonous herbs in Peninsular Malaysia with 79 named species. This compares with other large herb genera such as the 45 species in *Argostemma* Wall., Rubiaceae, 45 in *Sonerila* Roxb., Melastomataceae (Turner 1997) and 52 species in *Begonia* L., Begoniaceae (Kiew 2005). Botanical exploration of poorly known areas continues to discover new *Codonoboea* species, such as the two new species from Gunung Stong, Kelantan (Kiew 2009) and several others that await description. *Codonoboea* is confined to primary forest where it is ubiquitous from the lowlands to the highlands occurring on granite, sandstone and quartz derived soils or rocks but it is noticeably absent from limestone and aquatic habitats. It is diverse in regard to habit (although there are no climbing or epiphytic species), leaf and flower morphology. Its centre of diversity is Peninsular Malaysia, but species are also found in S Thailand, Sumatra, Singapore, Borneo, Palawan (the Philippines), Sulawesi and New Guinea (Weber & Burtt 1998).

Ridley (1923) in his *Flora of the Malay Peninsula* first described *Codonoboea* as a genus and included three species that in his opinion did not fit into any of the other genera. However, *Codonoboea* was ill-defined and not clearly distinct from the closest genus, *Paraboea* Ridl. Indeed the two diagnostic characters, namely peduncles adnate to the petiole (epiphyllous) and corolla lobes very short and tooth-like were present in only two of the three species. Burtt (1971) later transferred some *Paraboea* species to *Didymocarpus* Wall.

In 1990, Kiew reduced *Codonoboea* to a section within *Didymocarpus* and re-defined it to include four similar species with epiphyllous inflorescences. However, *Didymocarpus* itself underwent re-definition (Weber & Burtt 1983, 1998) that resulted in the exclusion of species with plagiotropic fruits that split on the adaxial side as opposed to the orthotropic ones of *Didymocarpus s. str.* that split both abaxially as well as adaxially. Based on morphological similarity, the excluded Peninsular Malaysian

species together with *Loxocarpus* R.Br. species were placed in *Henckelia* Spreng., a small genus of 15 species from S India and Sri Lanka, a decision that resulted in 180 new combinations (Weber & Burtt 1998, Vitek et al. 2000).

Recent molecular analyses (Moeller et al. 2009) now show conclusively that the Indian and Sri Lankan *Henckelia* species are distinct from the Peninsular Malaysian species and among the Peninsular Malaysian species, *Loxocarpus* species are also distinct from both *Henckelia* and other morphologically similar genera. These non-*Henckelia* and non-*Loxocarpus* species are now accommodated in the genus *Codonoboea* that is the remaining validly published name for this group of species and the generic circumscription is enlarged to accommodate them. For the 79 Peninsular Malaysian species, this necessitates making new combinations for 74 of the species and these are provided below.

Materials and methods

In working toward the family Gesneriaceae account for the on-going Flora of Peninsular Malaysia project, the Peninsular Malaysian taxa have been re-examined through extensive fieldwork, examination of herbarium specimens including types, and the literature. New combinations in *Codonoboea* are made for accepted names together with references (including recent literature), synonyms and types. Lectotypes are designated where appropriate. Notes are provided where an explanation is needed. The species are arranged alphabetically. In due course, the new taxa will be published and, for all species, distribution in Peninsular Malaysia will be mapped and a conservation status for each taxon will be assessed and a key for identification provided.

In Peninsular Malaysia, *Codonoboea* belongs to a group of genera that includes the seven in the key below, which provides the characters that distinguish between them.

Key to the *Codonoboea* group of genera in Peninsular Malaysia

Fertile stamens 4.
- Capsules very slender, becoming ribbed and scarcely splitting ..... ***Didissandra****
- Capsules thick, smooth and hard, splitting completely on the adaxial side ..... ***Ridleyandra***

Fertile stamens 2.
- Capsules orthotropic, splitting adaxially and abaxially.
  - Stigma distinctly bilobed. (Always on limestone.)
    - Rosette herbs, inflorescences scapiform, calyx tubular ..... ***Damrongia***
    - Caulescent herbs, inflorescences often epiphyllous, calyx divided to base ..... ***Microchirita***
  - Stigma peltate or rounded (not bilobed). (Never on limestone.) ..... ***Didymocarpus***
- Capsules plagiotropic, splitting only adaxially.
  - Capsules slender, cylindric, 1–5 cm long ..... ***Codonoboea***
  - Capsules short and distinctly thicker at base, 0.4–0.9 cm long .....

..... ***Loxocarpus***

*in Borneo, some *Didissandra* species have 2 fertile stamens.

***Codonoboea* Ridl.**
Fl. Malay Pen. 2 (1923) 533. LECTOTYPE: *Codonoboea leucocodon* (Ridl.) Ridl. (Ivanina (1967) Gesneriaceae, the Carpological Review). **Synonyms**: *Didymocarpus pro parte* Ridl. *ibid* 506. – *Didymocarpus* sect. *Codonoboea* (Ridl.) Kiew, Blumea 35 (1990) 171. – *Paraboea pro parte* Ridl. *ibid* 527. – *Henckelia* Spreng. *pro parte* Weber & Burtt, Beitr. Biol. Pflanzen 70 (1998) 316–325; Weber *in* Kubitzki, Fam. Gen. Vasc. Pl. 7 (2004) 146.

Perennial herbs with continuous growth. ***Stems*** usually woody, erect and either caulescent with an unbranched or branched stem to c. 50 cm tall or short and forming a rosette, or creeping. ***Leaves*** usually opposite, sometimes alternate to spiral, sessile or petiolate. ***Inflorescences*** axillary, with 1 or several per axil, sometimes epiphyllous; pedunculate pair-flowered cymes with 3–4 flowers or reduced to a single flower or branched, paniculate and many-flowered; bracteoles usually small, sometimes absent or large and conspicuous. ***Flowers*** 5-merous, with a small calyx divided almost to base; corolla tubular with 5 lobes, the lower 3 lobes often longer, large and trumpet-shaped to narrowly tubular to campanulate to short-tubed and flat-faced; tube often pale purple, cream-coloured or white with concolourous lobes or with lobes deeply coloured and contrasting, less commonly red or yellow; frequently with a pair of yellow or orange-brown nectar guides, rarely with additional stripes or spots; stamens 2, filaments long or short with the anthers positioned in the mouth of the corolla, anthers coherent, connectives often with a tooth-like appendage; nectary forming a deep or shallow ring, sometimes with a lobed rim or short on the adaxial side or it does not surround the ovary base and is tongue-like or is lacking; ovary cylindric, tapering into the style, stigma either peltate or rounded (but never bilobed or lamellate). ***Capsules*** plagiotropic, splitting adaxially, long, cylindric, 1–5 cm long, usually slender, rarely curved and slightly thicker towards the base.

1. ***Codonoboea alba*** (Ridl.) C.L.Lim, ***comb. nov.***
Basionym: *Didymocarpus albus* Ridl., J. Straits Branch Roy. Asiat. Soc. 44 (1905) 41, J. Asiat. Soc. Bengal, Pt. 2, Nat. Hist. 74 (1908) 754, Fl. Malay Pen. 2 (1923) 517. **Synonym**: *Henckelia alba* (Ridl.) A.Weber, Beitr. Biol. Pflanzen 70 (1998) 338. TYPE: *Curtis 3299*, Peninsular Malaysia, Perak, Gunung Bujang Melaka [Bujong Malacca], Aug 1898 (lectotype SING, here designated, isolectotype K).

   Codonoboea alba var. ***major*** (Ridl.) C.L.Lim, ***comb. nov.***
Basionym: *Didymocarpus albus* var. *major* Ridl., J. Straits Branch Roy. Asiat. Soc. 44 (1905) 41, J. Asiat. Soc. Bengal, Pt. 2, Nat. Hist. (1908) 754, Fl. Malay Pen. 2 (1923) 517. TYPE: *Wray 3905*, Peninsular Malaysia, Perak, Gunung Bubu, Mar 1890 (holotype SING).

   Note: Vitek et al. (2000) listed this taxon as 'var. uncertain'. Examination of the type specimen shows that it belongs to *C. alba* but that the differences in habit

and internodes length justify its status as a variety. Wray's collection number was erroneously cited as 3209 in Ridley (1908).

2. ***Codonoboea albina*** (Ridl.) Kiew, ***comb. nov.***
Basionym: *Didymocarpus albinus* Ridl., J. Straits Branch Roy. Asiat. Soc. 44 (1905) 37, J. Asiat. Soc. Bengal, Pt. 2, Nat. Hist. 74 (1908) 751, Fl. Malay Pen. 2 (1923) 512; Henderson, Malay. Wild Flowers Dicot. (1959) 346; Stone, Fed. Mus. J. 26 (1981) 99. TYPE: *Wray* (*King's Coll. 8070*), Peninsular Malaysia, Perak, Gunung Batu Putih, Aug 1886 (holotype SING).

Note: Weber & Burtt (1998), followed by Vitek et al. (2000), were in error in considering this species as synonymous with *Codonoboea hispida* (Ridl.) Kiew because it is clearly distinct in its longer petiole and larger lamina with a distinctly serrulate margin, its paniculate inflorescence with about 7 flowers and its smaller flower with purple spots. It is therefore reinstated here as a distinct species.

3. ***Codonoboea albomarginata*** (Hemsl.) Kiew, ***comb. nov.***
Basionym: *Didymocarpus albomarginatus* Hemsl., J. Bot. 25 (1887) 204; Ridley, J. Straits Branch Roy. Asiat. Soc. 44 (1905) 39, J. Asiat. Soc. Bengal, Pt. 2, Nat. Hist. 74 (1908) 752, Fl. Malay Pen. 2 (1923) 515; Henderson, Malay. Wild Flowers Dicot. (1959) 347. **Synonym**: *Henckelia albomarginata* (Hemsl.) A.Weber, Beitr. Biol. Pflanzen 70 (1998) 338. TYPE: *Wray 65*, Peninsular Malaysia, Perak, Waterfall Hill, Jan 1884 (lectotype K, here designated, isotype SING).

4. ***Codonoboea alternans*** (Ridl.) Kiew, ***comb. nov.***
Basionym: *Didymocarpus alternans* Ridl., J. Straits Branch Roy. Asiat. Soc. 44 (1905) 37, J. Asiat. Soc. Bengal, Pt. 2, Nat. Hist. 74 (1908) 751, Fl. Malay Pen. 2 (1923) 513. **Synonym**: *Henckelia alternans* (Ridl.) A.Weber, Beitr. Biol. Pflanzen 70 (1998) 338. TYPE: *Curtis 3133*, Peninsular Malaysia, Perak, Gunung Bujang Melaka [Bujong Malacca], Dec 1895 (lectotype SING, here designated, isolectotype K).

Note: Among the syntypes, this specimen is selected because it is deposited in more than one herbarium.

5. ***Codonoboea anthonyi*** (Kiew) C.L.Lim, ***comb. nov.***
Basionym: *Didymocarpus anthonyi* Kiew, Gard. Bull. Sing. 44 (1992) 24. **Synonym**: *Henckelia anthonyi* (Kiew) A.Weber, Beitr. Biol. Pflanzen 70 (1998) 339. TYPE: *Kiew RK 2700*, Peninsular Malaysia, Terengganu, Ulu Besut (holotype KEP, isotypes K, SING).

6. ***Codonoboea ascendens*** (Ridl.) C.L.Lim, ***comb. nov.***
Basionym: *Didymocarpus ascendens* Ridl., J. Linn. Soc. 32 (1896) 512, J. Straits Branch Roy. Asiat. Soc. 44 (1905) 45, J. Asiat. Soc. Bengal, Pt. 2, Nat. Hist. 74 (1908) 756, Fl. Malay Pen. 2 (1923) 517. **Synonym**: *Henckelia ascendens* (Ridl.) A.Weber, Beitr. Biol. Pflanzen 70 (1998) 339. TYPE: *Haviland s.n.*, Peninsular Malaysia, Perak, Tapah [Tapa], 1894 (lectotype SING, here designated; isolectotype BM).

7. ***Codonoboea atrosanguinea*** (Ridl.) C.L.Lim, ***comb. nov.***
Basionym: *Didymocarpus atrosanguineus* Ridl., Trans. Linn. Soc, ser. 2, Bot. 3 (1893) 328, J. Straits Branch Roy. Asiat. Soc. 44 (1905) 47, J. Asiat. Soc. Bengal, Pt. 2, Nat. Hist. 74 (1908) 758, Fl. Malay Pen. 2 (1923) 518; Kiew, Gard. Bull. Sing. 42 (1989) 49. **Synonym**: *Henckelia atrosanguinea* (Ridl.) A.Weber, Beitr. Biol. Pflanzen 70 (1998) 340. TYPE (lecto Kiew, 1989): *Ridley s.n.*, Peninsular Malaysia, Pahang, Sungai Tahan (lectotype SING).

8. ***Codonoboea bombycina*** (Ridl.) C.L.Lim, ***comb. nov.***
Basionym: *Didymocarpus bombycinus* Ridl., J. Straits Branch Roy. Asiat. Soc. 44 (1905) 48, J. Asiat. Soc. Bengal, Pt. 2, Nat. Hist. 74 (1908) 759, Fl. Malay Pen. 2 (1923) 518. **Synonym**: *Henckelia bombycina* (Ridl.) A.Weber, Beitr. Biol. Pflanzen 70 (1998) 340. TYPE: *King's Coll. 10587*, Peninsular Malaysia, Perak, Ulu Bubong, Jul 1886 (lectotype SING, here designated).

9. ***Codonoboea breviflora*** (Ridl.) Kiew, ***comb. nov.***
Basionym: *Didissandra breviflora* Ridl., Bull. Misc. Inform. Kew 1926 (1926) 474. **Synonyms**: *Didymocarpus breviflorus* (Ridl.) A.Weber & Kiew, Gard. Bull. Sing. 41 (1988) 7, fig. 4d–f & 5a–b. – *Henckelia breviflora* (Ridl.) A.Weber, Beitr. Biol. Pflanzen 70 (1998) 340. TYPE: *Hume 8437*, Peninsular Malaysia, Selangor, Ulu Gombak, 23 Sep 1921 (holotype SING).

10. ***Codonoboea caelestis*** Ridl.
Bull. Misc. Inform. Kew 1929 (1929) 259. **Synonyms**: *Didymocarpus caelestis* (Ridl.) Kiew, Blumea 35 (1990) 175. *Henckelia caelestis* (Ridl.) A.Weber, Beitr. Biol. Pflanzen 70 (1998) 341. TYPE (lecto Kiew, 1990): *Henderson 19683*, Peninsular Malaysia, Kelantan, Sungai Keteh at Gua Ninik (lectotype K, isolectotypes CGE, SING).

11. ***Codonoboea calcarea*** (Ridl.) Kiew, ***comb. nov.***
Basionym: *Didymocarpus calcareus* Ridl., Bull. Misc. Inform. Kew 1929 (1929) 258; Kiew, Malay. Nat. J. 48 (1995) 204. **Synonym**: *Henckelia calcarea* (Ridl.) A.Weber, Beitr. Biol. Pflanzen 70 (1998) 341. TYPE (lecto Kiew, 1995): *Nur & Foxworthy SFN 12192*, Peninsular Malaysia, Kelantan, Gunung Stong [Gunong Sitong], 6 Mar 1924 (lectotype K; isolectotype SING).

12. ***Codonoboea castaneifolia*** (Ridl.) Kiew, ***comb. nov.***
Basionym: *Didymocarpus castaneifolius* Ridl., J. Straits Branch Roy. Asiat. Soc. 86 (1922) 302, Fl. Malay Pen. 2 (1923) 514; Kiew, Malay. Nat. J. 48 (1995) 205. **Synonym**: *Henckelia castaneifolia* (Ridl.) A.Weber, Beitr. Biol. Pflanzen 70 (1998) 341. TYPE: *Yapp 438*, Peninsular Malaysia, Perak, Gunung Inas (lectotype K, here designated; isolectotype CBE).

13. ***Codonoboea codonion*** (Kiew) C.L.Lim, ***comb. nov.***
Basionym: *Didymocarpus codonion* Kiew, Gard. Bull. Sing. 42 (1989) 49. **Synonym**: *Henckelia codonion* (Kiew) A.Weber, Beitr. Biol. Pflanzen 70 (1998) 342. TYPE: *Kiew B.H. RK 1204*, Peninsular Malaysia, Pahang, Kuala Kenyam, 30 Sep 1982 (holotype KEP, isotype SING).

14. ***Codonoboea corneri*** (Kiew) Kiew, ***comb. nov.***
Basionym: *Didymocarpus corneri* Kiew, Blumea 35 (1990) 172, figs. 2 & 4. **Synonym**: *Henckelia corneri* (Kiew) A.Weber, Beitr. Biol. Pflanzen 70 (1998) 342. TYPE: *Kiew RK 2655*, Peninsular Malaysia, Terengganu, W of Chukai [Chukei], close to Sungai Nipah [Sg. Nipa], 5 May 1988 (holotype L, isotypes K, KEP, SING).

15. ***Codonoboea craspedodroma*** (Kiew) Kiew, ***comb. nov.***
Basionym: *Didymocarpus craspedodromus* Kiew, Malayan Nat. J. 41 (1987) 213. **Synonym**: *Henckelia craspedodroma* (Kiew) A.Weber, Beitr. Biol. Pflanzen 70 (1998) 342. TYPE: *Kiew RK 1757*, Peninsular Malaysia, Johor, Sungai Jasin (holotype KEP).

16. ***Codonoboea crinita*** (Jack) C.L.Lim, ***comb. nov.***
Basionym: *Didymocarpus crinitus* Jack, Malayan Misc. 1, 2 (1820) 1, J. Straits Branch Roy. Asiat. Soc. 44 (1905) 49, J. Asiat. Soc. Bengal, Pt. 2, Nat. Hist. 74 (1908) 759, Fl. Malay Pen. 2 (1923) 519, fig. 124; Henderson, Malay. Wild Flowers Dicot. (1959) 348, fig. 325. **Synonym**: *Henckelia crinita* (Jack) Spreng., Syst. veg., ed. 16; 4, 2 (1827) 13. TYPE: *Jack s.n.*, Peninsular Malaysia, Pulau Pinang [Penang] (holotype E).

Codonoboea crinita var. ***elongata*** (Ridl.) C.L.Lim, ***comb. nov.***
Basionym: *Didymocarpus crinitus* Jack var. *elongatus* Ridl., J. Straits Branch Roy. Asiat. Soc. 44 (1905) 50, J. Asiat. Soc. Bengal, Pt. 2, Nat. Hist. 74 (1908) 760, Fl. Malay Pen. 2 (1923) 520. TYPE: *Curtis 3781*, Peninsular Malaysia, Perak, Tapah (specimen not located).

Note: Codonoboea crinita is one of the most variable species in Peninsular Malaysia and a detailed study is required to understand the variation within this species and whether sub-specific taxa can be recognised.

17. ***Codonoboea crocea*** (Ridl.) C.L.Lim, ***comb. nov.***
Basionym: *Didymocarpus croceus* Ridl., J. Straits Branch Roy. Asiat. Soc. 44 (1905) 44, J. Asiat. Soc. Bengal, Pt. 2, Nat. Hist. 74 (1908) 756, Fl. Malay Pen. 2 (1923) 516. **Synonym**: *Henckelia crocea* (Ridl.) A.Weber, Beitr. Biol. Pflanzen 70 (1998) 343. TYPE: *Ridley 9776*, Peninsular Malaysia, Perak, Gunung Keledang, on banks, Aug 1890 (lectotype SING, here designated).

Note: The type is selected because it includes both flowering and fruiting material and is the earlier collection by Ridley himself.

18. ***Codonoboea curtisii*** (Ridl.) C.L.Lim, ***comb. nov.***
Basionym: *Didymocarpus crinitus* var. *curtisii* Ridl., J. Straits Branch Roy. Asiat. Soc. 44 (1905) 49, J. Asiat. Soc. Bengal, Pt. 2, Nat. Hist. 74 (1908) 759. **Synonyms**: *Didymocarpus curtisii* (Ridl.) Ridl., Fl. Malay Pen. 2 (1923) 520. – *Henckelia curtisii* (Ridl.) A.Weber, Beitr. Biol. Pflanzen 70 (1998) 343. TYPE: *Curtis s.n.*, Peninsular Malaysia, Selangor, above the Gap, Gunung Semangkok

[Gunong Semangko Pass], May 1902 (lectotype SING, here designated).

Note: Vitek et al. (2000) draw attention to the citation of the basionym by Ridley (1923) as 'J. Asiat. Soc. Bengal, Pt. 2, Nat. Hist. 74: 759 (1908)' as erroneous.

19. ***Codonoboea davisonii*** (Kiew) Kiew, ***comb. nov.***
Basionym: *Didymocarpus davisonii* Kiew, Malayan Nat. J. 43 (1990) 242. **Synonym**: *Henckelia davisonii* (Kiew) A.Weber, Beitr. Biol. Pflanzen 70 (1998) 343. TYPE: *Kiew RK 2834*, Peninsular Malaysia, Pahang, Gunung Lesong, 31 Oct 1989 (holotype KEP, isotype SING).

20. ***Codonoboea dawnii*** (Kiew) Kiew, ***comb. nov.***
Basionym: *Didymocarpus dawnii* Kiew, Malayan Nat. J. 48 (1995) 201. **Synonym**: *Henckelia dawnii* (Kiew) A.Weber, Beitr. Biol. Pflanzen 70 (1998) 343. TYPE: *Davison D 6*, Peninsular Malaysia, Perak, N of E-W Highway, 3 Mar 1995 (holotype KEP).

21. ***Codonoboea densifolia*** (Ridl.) C.L.Lim, ***comb. nov.***
Basionym: *Didymocarpus densifolius* Ridl., J. Straits Branch Roy. Asiat. Soc. 44 (1905) 51, J. Asiat. Soc. Bengal, Pt. 2, Nat. Hist. 74 (1908) 761, Fl. Malay Pen. 2 (1923) 521. **Synonyms**: *Paraboea densifolia* (Ridl.) M.R.Hend., Gard. Bull. Straits Settlem. 5 (1930) 79. – *Henckelia densifolia* (Ridl.) A.Weber, Beitr. Biol. Pflanzen 70 (1998) 343. TYPE: *Lake & Kelsall s.n.*, Peninsular Malaysia, Johor, Gunung Janing [Janeng] (holotype SING).
Heterotypic synonyms: *Paraboea caerulea* Ridl., J. Straits Branch Roy. Asiat. Soc. 44 (1905) 66, J. Asiat. Soc. Bengal, Pt. 2, Nat. Hist. 74 (1908) 772, Fl. Malay Pen. 2 (1923) 529; *non Didymocarpus caeruleus* (R.Br.) Koord. – *Didymocarpus azureus* B.L.Burtt, Notes Roy. Bot. Gard. Edinburgh 31 (1971) 44. TYPE: *Rostado s.n.*, Peninsular Malaysia, Terengganu, Bundi, 1904 (holotype SING).

Note: Ridley (1905) cited Kelsall as the collector in the protologue of *Didymocarpus densifolius*, but the specimen records Lake & Kelsall as the collectors.

22. ***Codonoboea doryphylla*** (B.L.Burtt) C.L.Lim, ***comb. nov.***
Basionym: *Didymocarpus doryphyllus* B.L.Burtt, Notes Roy. Bot. Gard. Edinburgh 23 (1960) 99. **Synonyms**: *Didymocarpus lanceolatus* Ridl., J. Fed. Malay States Mus. 4 (1909) 50, Fl. Malay Pen. 2 (1923) 520, *nom. illeg. non* C.B.Clarke (1883). – *Henckelia doryphylla* (B.L.Burtt) A.Weber, Beitr. Biol. Pflanzen 70 (1998). TYPE: *Robinson & Kloss s.n.*, Peninsular Malaysia, way to Gunung Irau (?).

Note: A search in BM, CBE, E, K and SING failed to locate the type specimen, which was known from a single collection; nor are there other specimens annotated by Ridley. The status of this species at species level is dubious for Ridley (1923) himself drew attention to its close similarity to *C. fasciata*.

23. ***Codonoboea ericiflora*** (Ridl.) Ridl.
Fl. Malay Pen. 2 (1923) 533. **Basionym**: *Didymocarpus ericiflorus* Ridl., J. Fed. Malay States Mus. 6 (1915) 166; Kiew, Gard. Bull. Sing. 42 (1989) 51, Blumea 35 (1990) 173. **Synonym**: *Henckelia ericiflora* (Ridl.) A.Weber, Beitr. Biol. Pflanzen 70 (1998) 344. TYPE (lecto Kiew, 1989): *Ridley 16283*, Peninsular Malaysia, Pahang, Gunung Tahan, Wray's camp, Jul 1911 (lectotype K, isolectotype SING).

24. ***Codonoboea falcata*** (Kiew) Kiew, ***comb. nov.***
Basionym: *Didymocarpus falcatus* Kiew, Malayan Nat. J. 41 (1987) 218, fig. 3. **Synonym**: *Henckelia falcata* (Kiew) A.Weber, Beitr. Biol. Pflanzen 70 (1998) 344. TYPE: *Kiew RK 1726*, Peninsular Malaysia, Johor, Gunung Janing Barat (holotype KEP).

25. ***Codonoboea fasciata*** (Ridl.) C.L.Lim, ***comb. nov.***
Basionym: *Didymocarpus fasciatus* Ridl., J. Straits Branch Roy. Asiat. Soc. 44 (1905) 50, J. Asiat. Soc. Bengal, Pt. 2, Nat. Hist. 74 (1908) 760, Fl. Malay Pen. 2 (1923) 520; Kiew, Gard. Bull. Sing. 42 (1989) 52. **Synonym**: *Henckelia fasciata* (Ridl.) A.Weber, Beitr. Biol. Pflanzen 70 (1998) 344. TYPE (lecto Kiew, 1989): *Ridley 2169*, Peninsular Malaysia, Pahang, Sungai Tahan, 1891 (lectotype K, isolectotype SING).

26. ***Codonoboea flava*** (Ridl.) Kiew, ***comb. nov.***
Basionym: *Didymocarpus flavus* Ridl., J. Linn. Soc. 32 (1896) 507, J. Straits Branch Roy. Asiat. Soc. 44 (1905) 34, J. Asiat. Soc. Bengal, Pt. 2, Nat. Hist. 74 (1908) 749, Fl. Malay Pen. 2 (1923) 510; Henderson, Malay. Wild Flowers Dicot. (1959) 346. **Synonym**: *Henckelia flava* (Ridl.) A.Weber, Beitr. Biol. Pflanzen 70: 344 (1998). TYPE: *Ridley 2914*, Peninsular Malaysia, Perak Hills, 1891 (holotype BM).
Heterotypic synonyms: *Staurogyne serrulata* C.B.Clarke, J. Asiat. Soc. Bengal, Pt. 2, Nat. Hist.74 (1908) 642; Ridley, Fl. Malay Pen. 2 (1923) 563. SYNTYPES: *Wray 1599*, Peninsular Malaysia, Perak, Ulu Batang Padang (CAL); *Scortechini s.n., sine loc.* (CAL).
Didymocarpus flavus Ridl. var. *purpurascens* Ridl., J. Straits Branch Roy. Asiat. Soc. 44 (1905) 34, J. Asiat. Soc. Bengal, Pt. 2, Nat. Hist. 74 (1908) 749, ***syn. nov.*** TYPE: *Ridley 11901*, Peninsular Malaysia, Perak, Bukit Kapayung, Sungai Siput, Feb 1904 (lectotype K, here designated, isolectotype SING).

Notes: 1. *Staurogyne serrulata* was synonymised by Burtt, Notes Roy. Bot. Gard. Edinburgh 36 (1978) 151. We have not seen the Calcutta specimens so are in no position to choose a lectotype.
2. Ridley (1905) distinguished *Didymocarpus flavus* var. *purpurescens* by its purplish stem and broad leaves but examination of the type shows that its leaves are no broader (3.25–4.25 × 2.5–5 cm) than those of the typical variety (7.5–12.5 × 3.5–5 cm). In species of *Codonoboea*, the presence or absence of purple coloration of the stem and leaves often varies between populations of the same species so is not a good taxonomic character. For these reasons and the fact that it does not differ in other characters, this variety is reduced to synonymy.

27. ***Codonoboea flavescens*** (Ridl.) Kiew, ***comb. nov.***
Basionym: *Didymocarpus flavescens* Ridl., J. Straits Branch Roy. Asiat. Soc. 44 (1905) 35, J. Asiat. Soc. Bengal, Pt. 2, Nat. Hist. 74 (1908) 749, Fl. Malay Pen. 2 (1923) 511. **Synonym**: *Henckelia flavescens* (Ridl.) A.Weber, Beitr. Biol. Pflanzen 70 (1998) 344. TYPE: *Ridley 7585*, Peninsular Malaysia, Selangor, Kuala Kubu (holotype SING).

28. ***Codonoboea flavobrunnea*** (Ridl.) Kiew, ***comb. nov.***
Basionym: *Didymocarpus flavobrunneus* Ridl., Trans. Linn. Soc, ser. 2, Bot. 3 (1893) 329, J. Straits Branch Roy. Asiat. Soc. 44 (1905) 39, J. Asiat. Soc. Bengal, Pt. 2, Nat. Hist. 74 (1908) 753, Fl. Malay Pen. 2 (1923) 515; Kiew, Gard. Bull. Sing. 42 (1989) 52. **Synonyms**: *Henckelia flavobrunnea* (Ridl.) A.Weber, Beitr. Biol. Pflanzen 70 (1998) 344. TYPE (lecto Kiew, 1989): *Ridley 2163*, Peninsular Malaysia, Pahang, Tahan Valley, Jul 1891 (lectotype K, isolectotypes BM, SING).
Heterotypic synonym: *Didymocarpus flavobrunneus* Ridl. var. *montanus* Ridl., J. Fed. Mal. States Mus. 6 (1915) 167, Fl. Malay Pen. 2 (1923) 515; Kiew, Gard. Bull. Sing. 42 (1989) 52. TYPE (lecto Kiew, 1989): *Ridley 16284*, Peninsular Malaysia, Pahang, Gunung Tahan, Wray's Camp, Jul 1911 (lectotype K, isolectotype SING).

29. ***Codonoboea floribunda*** (M.R.Hend.) C.L.Lim, ***comb. nov.***
Basionym: *Paraboea floribunda* M.R.Hend., Gard. Bull. Sing. 7 (1933) 117. **Synonyms**: *Didymocarpus floribundus* (M.R.Hend.) B.L.Burtt, Notes Roy. Bot. Gard. Edinburgh 31 (1971) 44. – *Henckelia floribunda* (M.R.Hend.) A.Weber, Beitr. Biol. Pflanzen 70 (1998) 345. TYPE: *Corner 26022*, Peninsular Malaysia, Terengganu, Kemaman, Bukit Kajang, Sungai Nipah, Jun 1932 (holotype K).

30. ***Codonoboea geitleri*** (A.Weber) C.L.Lim, ***comb. nov.***
Basionym: *Didymocarpus geitleri* A.Weber, Pl. Syst. Evol. 165 (1989) 95. **Synonym**: *Henckelia geitleri* (A.Weber) A.Weber, Beitr. Biol. Pflanzen 70 (1998) 345. TYPE: *Weber & Anthonysamy 860824–3/1*, Peninsular Malaysia, Pahang, Kuantan, Sungai Pandan, 24 Aug 1986 (holotype WU, isotypes WU, KEP).

31. ***Codonoboea glabrata*** (Ridl.) Kiew, ***comb. nov.***
Basionym: *Didymocarpus glabratus* Ridl., J. Straits Branch Roy. Asiat. Soc. 44 (1905) 38, J. Asiat. Soc. Bengal, Pt. 2, Nat. Hist. 74 (1908) 751, Fl. Malay Pen. 2 (1923) 513. **Synonym**: *Henckelia glabrata* (Ridl.) A.Weber, Beitr. Biol. Pflanzen 70 (1998) 345. TYPE: *King's Coll. 209*, Peninsular Malaysia, Johor, Gunung Panti, Jun 1880 (lectotype SING, here designated; isolectotype K).

Note: The Singapore sheet is chosen as the lectotype because the K sheet is a portion of the Singapore one.

32. ***Codonoboea grandifolia*** (Ridl.) Kiew, ***comb. nov.***
Basionym: *Paraboea grandifolia* (Ridl.) Ridl., Fl. Malay Pen. 2 (1923) 531. **Synonyms**: *Didymocarpus grandifolius* Ridl., J. Linn. Soc. Bot. 38 (1908) 318 *non Didymocarpus grandifolius* (A.Dietr.) F.G.Dietr. (1834). – *Didymocarpus*

tahanicus B.L.Burtt, Notes Roy. Bot. Gard. Edinburgh 31 (1971) 46; Kiew, Malay. Nat. J. 48 (1995) 205, Gard. Bull. Sing. 42 (1989). – *Henckelia tahanica* (B.L.Burtt) A.Weber, Beitr. Biol. Pflanzen 70 (1998) 357. TYPE: *Wray & Robinson 5369*, Peninsular Malaysia, Pahang, Gunung Tahan (holotype BM *fide* Burtt (1971), isotype SING).

33. *Codonoboea heterophylla* (Ridl.) C.L.Lim, ***comb. nov.***
Basionym: *Didymocarpus heterophyllus* Ridl., Trans. Linn. Soc, ser. 2, Bot. 3 (1893) 329, J. Straits Branch Roy. Asiat. Soc. 44 (1905) 55, J. Asiat. Soc. Bengal, Pt. 2, Nat. Hist. 74 (1908) 763, Fl. Malay Pen. 2 (1923) 522; Kiew, Gard. Bull. Sing. 42 (1989) 53. **Synonym**: *Henckelia heterophylla* (Ridl.) A.Weber, Beitr. Biol. Pflanzen 70 (1998) 346. TYPE: *Ridley 2170*, Peninsular Malaysia, Pahang, Sungai Tahan, 1891 (holotype SING).

34. *Codonoboea hirsuta* (Ridl.) C.L.Lim, ***comb. nov.***
Basionym: *Didymocarpus hirsutus* Ridl., J. Straits Branch Roy. Asiat. Soc. 44 (1905) 48, J. Asiat. Soc. Bengal, Pt. 2, Nat. Hist. 74 (1908) 758, Fl. Malay Pen. 2 (1923) 520. **Synonym**: *Henckelia hirsuta* (Ridl.) A.Weber, Beitr. Biol. Pflanzen 70 (1998) 346. TYPE: *King's Coll. 715*, Peninsular Malaysia, Perak, Gopeng [Goping], Sep 1880 (lectotype SING, here designated).

Note: King's Coll. 715 is selected as the lectotype because of confusion with the numbering of *King's Coll. 2529* in Ridley (1905) and *2829* in Vitek et al. (2000), which has not been relocated to verify the correct number.

35. *Codonoboea hirta* (Ridl.) Kiew, ***comb. nov.***
Basionym: *Didymocarpus hirtus* Ridl., J. Straits Branch Roy. Asiat. Soc. 44 (1905) 36, J. Asiat. Soc. Bengal, Pt. 2, Nat. Hist. 74 (1908) 750, Fl. Malay Pen. 2 (1923) 512. **Synonyms**: *Henckelia hirta* (Ridl.) A.Weber, Beitr. Biol. Pflanzen 70 (1998) 346. – *Paraboea campanulata* Ridl., J. Straits Branch Roy. Asiat. Soc. 44 (1905) 65, J. Asiat. Soc. Bengal, Pt. 2, Nat. Hist. 74 (1908) 771, Fl. Malay Pen. 2 (1923) 529. – *Didymocarpus campanulatus* (Ridl.) B.L.Burtt, Notes Roy. Bot. Gard. Edinburgh 31 (1971) 44, ***syn. nov.*** TYPE: *Curtis s.n.*, Peninsular Malaysia, Selangor, above the Gap, on the road to Simpang Mines, May 1902 (holotype SING).
Heterotypic synonym: *Chirita uniflora* Ridl., J. Straits Branch Roy. Asiat. Soc. 61 (1912) 34, Fl. Malay Pen. 2 (1923) 525. TYPE: *Ridley s.n.*, Peninsular Malaysia, Selangor, Simpang Mines Track, Apr 1911 (holotype K).

Notes: 1. Ridley (1905) originally described *Didymocarpus hirtus* from material without flowers but later (Ridley 1923) described the corolla as 'nearly 1 in. long', compared with *P. campanulata* that he described with corollas 'half an inch long'. Apart from corolla length, specimens of these two taxa share the same habit, leaf arrangement and morphology. Weber & Burtt (1998) are correct in suggesting that 'this is probably no more than an abnormal specimen of *Henckelia* with a very short corolla'. It is here reduced to synonymy.
2. Wood (1974) referred *Chirita uniflora* to *Didymocarpus* and Vitek et al. (2000)

based on Ridley's description suggested that it belonged to *Henckelia hirta.* Based on examination of the type, Rafidah (2010) confirmed that *Chirita uniflora* is a synonym of *Codonoboea hirta.*

36. *Codonoboea hispida* (Ridl.) Kiew, ***comb. nov.***
Basionym: *Didymocarpus hispidus* Ridl., J. Linn. Soc. 32 (1896) 507, J. Asiat. Soc. Bengal, Pt. 2, Nat. Hist. 74 (1908) 750, Fl. Malay Pen. 2 (1923) 511; Henderson, Malay. Wild Flowers Dicot. (1959) 347. **Synonyms**: *Didymocarpus hispidulus* Ridl. (in error), J. Straits Branch Roy. Asiat. Soc. 44 (1905) 35. – *Henckelia hispida* (Ridl.) A.Weber, Beitr. Biol. Pflanzen 70 (1998) 346. TYPE: *Curtis 2037*, Peninsular Malaysia, Perak, Taiping [Thaiping] Hills, Gunung Hijau, Sep 1889 (holotype SING).
Heterotypic synonyms: *Didymocarpus hispidus* Ridl. var. *selangorensis* Ridl., J. Straits Branch Roy. Asiat. Soc. 44 (1905) 36 J. Asiat. Soc. Bengal, Pt. 2, Nat. Hist. 74 (1908) 750, Fl. Malay Pen. 2 (1923) 512; Stone, Fed. Mus. J. 26 (1981) 99, ***syn. nov.*** TYPE: *Curtis 3752*, Peninsular Malaysia, Selangor, Gunung Semangkok [Gunong Semangko], (holotype SING).
Didymocarpus albinellus Ridl., J. Fed. Malay States Mus. 4 (1909) 51, Fl. Malay Pen. 2 (1923) 512; Henderson, Malay. Wild Flowers Dicot. (1959) 346. TYPE: *Ridley 13679*, Peninsular Malaysia, Pahang, Gunung Beremban [Berumban], Nov 1908 (lectotype SING, here designated, isolectotype K).
Staurogyne macrantha C.B.Clarke, J. Asiat. Soc. Bengal, Pt. 2, Nat. Hist. 74 (1908) 642; Ridley, Fl. Malay Pen. 2 (1923) 563. TYPE: *King's Coll. 2417*, Peninsular Malaysia, Perak, Larut (holotype CAL *n.v.*).

Notes: 1. *Didymocarpus hispidus* var. *selangorensis* is no more than a white-flowered form of the typical one that has purple stipes on the lower lobes. It is therefore here reduced to synonomy.
2. Weber & Burtt (1998) were correct in treating *Didymocarpus albinellus* as a synonym. It just represents smaller-leaved plants, perhaps the result of growing in more exposed conditions.
3. *Staurogyne macrantha* was synonymised by Burtt, Notes Roy. Bot. Gard. Edinburgh 36 (1978) 151.

37. *Codonoboea holttumii* (M.R.Hend.) C.L.Lim, ***comb. nov.***
Basionym: *Paraboea holttumii* M.R.Hend., Gard. Bull. Sing. 4 (1927) 54. **Synonyms**: *Didymocarpus holttumii* (M.R.Hend.) B.L.Burtt, Notes Roy. Bot. Gard. Edinburgh 31 (1971) 44. – *Henckelia holttumii* (M.R.Hend.) A.Weber, Beitr. Biol. Pflanzen 70 (1998) 346. TYPE: *Holttum 10685*, Peninsular Malaysia, Johor, Gunung Belumut, 25 May 1923 (lectotype SING, here designated).

Note: The SING specimen is selected because Henderson was carrying out research there. In addition, the specimen at K has not been relocated.

38. *Codonoboea inaequalis* (Ridl.) Kiew, ***comb. nov.***
Basionym: *Didymocarpus inaequalis* Ridl., J. Linn. Soc. 32 (1896) 506, J. Straits Branch Roy. Asiat. Soc. 44 (1905) 41 J. Asiat. Soc. Bengal, Pt. 2, Nat. Hist.

74 (1908) 753. **Synonym**: *Henckelia inaequalis* (Ridl.) A.Weber, Beitr. Biol. Pflanzen 70 (1998) 347. TYPE: *Curtis 2568*, Peninsular Malaysia, Kedah, Pulau Langkawi, Gunung Machinchang [Chinchang], Sep 1890 (holotype SING).

39. ***Codonoboea kelantanensis*** (Kiew) Kiew, ***comb. nov.***
Basionym: *Henckelia kelantanensis* Kiew, Gard. Bull. Sing. 61 (2009) 73. TYPE: *Chew et al. FRI 53518*, Peninsular Malaysia, Kelantan, Stong Tengah Forest Reserve, path to Camp Cobra, 8 Feb 2007 (holotype KEP, isotypes E, L).

40. ***Codonoboea johorica*** (Ridl.) Kiew, ***comb. nov.***
Basionym: *Didissandra johorica* Ridl., J. Straits Branch Roy. Asiat. Soc. 44 (1905) 22, J. Asiat. Soc. Bengal, Pt. 2, Nat. Hist. 74 (1908) 739, Fl. Malay Pen. 2 (1923) 502. **Synonym**: *Henckelia johorica* (Ridl.) A.Weber, Beitr. Biol. Pflanzen 70 (1998) 355. TYPE: *Ridley 4175*, Peninsular Malaysia, Johor, Gunung Panti (lectotype SING, here designated; isolectotype K).

Notes: Ridley was carrying out research in Singapore when he described this species. Therefore, the SING specimen is selected as lectotype.

41. ***Codonoboea lancifolia*** (M.R.Hend.) C.L.Lim, ***comb. nov.***
Basionym: *Didymocarpus lancifolius* M.R.Hend., Gard. Bull. Straits Settlem. 4 (1927) 52. **Synonym**: *Henckelia lancifolia* (M.R.Hend.) A.Weber, Beitr. Biol. Pflanzen 70 (1998) 348. TYPE: *Burkill & Haniff 16946*, Peninsular Malaysia, Pahang, gorge of the Sungai Tras near Raub, 12 Nov 1924 (holotype SING).

42. ***Codonoboea leiophylla*** (Kiew) C.L.Lim, ***comb. nov.***
Basionym: *Didymocarpus leiophyllus* Kiew, Gard. Bull. Sing. 44 (1992) 28.
Synonym: *Henckelia leiophylla* (Kiew) A.Weber, Beitr. Biol. Pflanzen 70 (1998) 348. TYPE: *Kiew RK 2265*, Peninsular Malaysia, Terengganu, Ulu Setiu [Setui] (holotype KEP, isotype SING).

43. ***Codonoboea leucantha*** (Kiew) Kiew, ***comb. nov.***
Basionym: *Didymocarpus leucanthus* Kiew, Gard. Bull. Sing. 44 (1992) 31.
Synonym: *Henckelia leucantha* (Kiew) A.Weber, Beitr. Biol. Pflanzen 70 (1998) 348. TYPE: *Kiew RK 2767*, Peninsular Malaysia, Selangor, Ulu Ampang (holotype KEP, isotype SING).

44. ***Codonoboea leucocodon*** (Ridl.) Ridl.
Fl. Malay. Pen. 2 (1923) 533. **Basionym**: *Paraboea leucocodon* Ridl., J. Fed. Malay States Mus. 6 (1915) 167. **Synonyms**: *Didymocarpus leucocodon* (Ridl.) Kiew, Gard. Bull. Sing. 42 (1989) 53, Blumea 35 (1990) 175. – *Henckelia leucocodon* (Ridl.) A.Weber, Beitr. Biol. Pflanzen 70 (1998) 348. TYPE (lecto Kiew, 1989): *Ridley 16041*, Peninsular Malaysia, Pahang, Gunung Tahan, Jul 1911 (lectotype K, isolectotype SING).

45. ***Codonoboea lilacina*** (Ridl.) Ridl.
Fl. Malay Pen. 2 (1923) 534. **Basionym**: *Didymocarpus lilacinus* Ridl., Trans.

Linn. Soc, ser. 2, Bot. 3 (1893) 330, J. Straits Branch Roy. Asiat. Soc. 44 (1905) 56, J. Asiat. Soc. Bengal, Pt. 2, Nat. Hist. 74 (1908) 764; Kiew, Blumea 35 (1990) 174, Gard. Bull. Sing. 42 (1989) 54. **Synonym**: *Henckelia lilacina* (Ridl.) A.Weber, Beitr. Biol. Pflanzen 70 (1998) 348. TYPE (lecto Kiew, 1989): *Ridley 2165*, Peninsular Malaysia, Pahang, Tahan Valley, Jul 1911 (lectotype K, isolectotype SING).

46. *Codonoboea longipes* (C.B.Clarke) Kiew, ***comb. nov.***
Basionym: *Didymocarpus longipes* C.B.Clarke *in* A.DC. & C.DC., Monogr. Phan. 5, 1 (1883) 86; Ridley, J. Straits Branch Roy. Asiat. Soc. 44 (1905) 40, J. Asiat. Soc. Bengal, Pt. 2, Nat. Hist. 74 (1908) 753, Fl. Malay Pen. 2 (1923) 521. **Synonym**: *Henckelia longipes* (C.B.Clarke) A.Weber, Beitr. Biol. Pflanzen 70 (1998) 349. TYPE: *Maingay 2723*, Peninsular Malaysia, Johor [Malacca in error], Gunung Ledang [Mt. Ophir], Aug 1867–68 (lectotype K, here designated, isolectotype L).

Notes: Among the syntypes, *Maingay 2723* is selected because it is a flowering specimen and the sheet includes a description of the dissected flower. Early collectors approached Gunung Ledang from Malacca town but in fact Gunung Ledang lies within the state of Johor.

47. *Codonoboea malayana* (Hook.f.) Kiew, ***comb. nov.***
Basionym: *Didymocarpus malayanus* Hook.f., Gard. Chron. 20 (1896) 123 & fig. 24, Bot. Mag. (1897) *t.* 7526; Ridley, J. Straits Branch Roy. Asiat. Soc. 44 (1905) 38, J. Asiat. Soc. Bengal, Pt. 2, Nat. Hist. 74 (1908) 752, Fl. Malay Pen. 2 (1923) 514; Henderson, Malay. Wild Flowers Dicot. (1959) 347, fig. 324. **Synonym**: *Henckelia malayana* (Hook.f.) A.Weber, Beitr. Biol. Pflanzen 70 (1998) 349. TYPE: *Curtis s.n.*, Peninsular Malaysia, Pulau Pinang [Penang] (holotype K).
Heterotypic synonym: *Didymocarpus malayanus* Hook.f. var. *fasciatus* Ridl., Fl. Malay Pen. 2 (1923) 514, ***syn. nov.*** TYPE: *Robinson s.n.*, Peninsular Malaysia, Perak, Gunung Korbu [Kerbau], 16 Mar 1913 (lectotype K, here designated).

Notes: Among the three specimens in the type folder at K, *Robinson s.n.* is selected because it is annotated as var. *fasciata* in Ridley's hand and its leaves are conspicuously fasciate even in the dried state. However, whether the leaves have the broad pale grey band along the midrib varies between and within populations so cannot be used as a taxonomic character. In addition, the plate of *Didymocarpus malayanus* in Botanical Magazine shows the leaves to be clearly fasciate. *Codonoboea malayana* is a widespread and variable species so the distinction between a 'round-leaved form' of var. *fasciatus* versus the typical variety with leaves 'ovate blunt or rounded, … sometimes lanceolate acute' does not support it as a distinct taxon. For these reasons this variety is reduced to synonymy.

Codonoboea malayana (Hook.f.) Kiew var. ***winkleri*** (Ridl.) Kiew, ***comb. & stat. nov.***
Basionym: *Didymocarpus winkleri* Ridl., J. Straits Branch Roy. Asiat. Soc. 50 (1908) 123, Fl. Malay Pen. 2 (1923) 515; Lim et al., Malay Nat. J. 61 (2009)

178, fig. 3. TYPE: *Winkler 1791*, Peninsular Malaysia, Negeri Sembilan, Gunung Angsi, 2 Apr 1908 (lectotype SING, here designated, isolectotype BM).

Notes: Weber & Burtt (1998) followed by Vitek et al. (2000) reduced *Didymocarpus winkleri* to synonomy with *D. malayanus* without giving any reason for their decision. Apart from its pure white flowers, var. *winkleri* is distinct from var. *malayana* in its erect habit and floriferous inflorescences with about 10 flowers.

48. *Codonoboea marginata* (C.B.Clarke) C.L.Lim, ***comb. nov.***
Basionym: *Didymocarpus marginatus* C.B.Clarke *in* A.DC & C. DC, Monogr. Phan. 5, 1 (1883) 96, Fl. Malay Pen. 2 (1923) 516. **Synonym**: *Henckelia marginata* (C.B.Clarke) A.Weber, Beitr. Biol. Pflanzen 70 (1998) 349. TYPE: *Lobb 184*, Peninsular Malaysia, 'Malacca' (lectotype 'Luzon' K, here designated; isolectotype 'Malacca' K).
Heterotypic synonym: *Didymocarpus ophirensis* Ridl., J. Straits Branch Roy. Asiat. Soc. 44 (1905) 43, J. Asiat. Soc. Bengal, Pt. 2, Nat. Hist. 74 (1908) 755. TYPE: *Ridley 3185*, Peninsular Malaysia, Johor [Malacca] lower part of Gunung Ledang [Mount Ophir] (holotype SING).

Notes: 1. There are two sheets of *Lobb 184*, one annotated 'Malacca', the other 'Luzon', which is crossed out and replaced by 'Malacca'. No doubt both were collected in the Malacca area, probably from Gunung Ledang (Mt. Ophir), which is actually in Johor. This 'Luzon'specimen is selected as the lectotype because it has both flowers and fruits (the other specimen has only fruits).
2. It is likely that when Ridley was working on his Flora at Kew, he had the opportunity to examine the Lobb specimens of *Didymocarpus marginatus* because in Ridley (1923) he treated his *D. ophirensis* as a synonym.

49. *Codonoboea miniata* (Kiew) C.L.Lim, ***comb. nov.***
Basionym: *Didymocarpus miniatus* Kiew, Novon 5 (1995) 40. **Synonym**: *Henckelia miniatus* (Kiew) A.Weber, Beitr. Biol. Pflanzen 70 (1998) 350. TYPE: *Kiew RK 3792*, Peninsular Malaysia, Terengganu, Bukit Bauk (holotype KEP, isotypes L, SING).

50. *Codonoboea modesta* (Ridl.) Kiew, ***comb. nov.***
Basionym: *Didymocarpus modestus* Ridl., J. Fed. Malay States Mus. 6 (1915) 53, Fl. Malay Pen. 2 (1923) 513. **Synonym**: *Henckelia modesta* (Ridl.) A.Weber, Beitr. Biol. Pflanzen 70 (1998) 350. TYPE: *Dyak Coll. s.n.*, Peninsular Malaysia, Gunung Korbu [Gunong Kerbau], 1913 (holotype K).

51. *Codonoboea nitida* (Kiew & A.Weber) Kiew, ***comb. nov.***
Basionym: *Didymocarpus nitidus* Kiew & A.Weber, Gard. Bull. Sing. 41 (1988) 4, fig. 3 & 4a–c. **Synonym**: *Henckelia nitida* (Kiew & A.Weber) A.Weber, Beitr. Biol. Pflanzen 70 (1998) 351. TYPE: *Weber & Anthonysamy 840711–1/1*, Peninsular Malaysia, Selangor, Gunung Bunga Buah, E of summit, Jul 1984 (holotype WU, isotypes E, K, KEP, KLU, L, WU).

52. *Codonoboea nivea* Kiew
Malayan Nat. J. 41 (1987) 210. **Synonyms**: *Didymocarpus niveus* (Kiew) Kiew, Blumea 35 (1990) 174. – *Henckelia nivea* (Kiew) A.Weber, Beitr. Biol. Pflanzen 70 (1998) 351. TYPE: *Kiew B.H. KBH 86–33*, Peninsular Malaysia, Pahang, Ulu Kinchin, Sungai Damong Kechil (holotype KEP, isotypes K, L, SING).

53. *Codonoboea parviflora* (Ridl.) Kiew, ***comb. nov.***
Basionym: *Didymocarpus parviflorus* Ridl., J. Straits Branch Roy. Asiat. Soc. 44 (1905) 33, J. Asiat. Soc. Bengal, Pt. 2, Nat. Hist. 74 (1908) 748, Fl. Malay Pen. 2 (1923) 510. **Synonym**: *Henckelia parviflora* (Ridl.) A.Weber, Beitr. Biol. Pflanzen 70 (1998) 352. TYPE: *Ridley 11970*, Peninsular Malaysia, Negeri Sembilan, Gunung Angsi, 1914 (lectotype SING, here designated; isolectotype K).

54. *Codonoboea pauziana* (Kiew) Kiew, ***comb. nov.***
Basionym: *Henckelia pauziana* Kiew, Gard. Bull. Sing. 61, 1 (2009) 74, fig. 1. TYPE: *Chew et al. FRI 53513*, Peninsular Malaysia, Kelantan, Stong Tengah Forest Reserve, Batu Hampar to Cobra Camp, 8 Feb 2007 (holotype KEP [flower], isotypes KEP [fruits], K, L, SAN, SING).

55. *Codonoboea pectinata* (Oliv.) Kiew, ***comb. nov.***
Basionym: *Didymocarpus pectinatus* C.B.Clarke ex Oliv. in Hook., Icon. Pl. 23 (1892) *t.* 2246; Ridley, J. Straits Branch Roy. Asiat. Soc. 44 (1905) 53, J. Asiat. Soc. Bengal, Pt. 2, Nat. Hist. 74 (1909) 762, Fl. Malay Pen. 2 (1923) 521. **Synonym**: *Henckelia pectinata* (Oliv.) A.Weber, Beitr. Biol. Pflanzen 70 (1998) 352. TYPE: *King's Coll. 10711*, Peninsular Malaysia, Perak, Aug 1886 (lectotype K, here designated, isolectotype SING).

Notes: The type collection is recorded from limestone rocks. Unfortunately, the locality of this Perak plant is not recorded, so it is not possible to confirm whether this is correct. So far in Peninsular Malaysia no *Codonoboea* species is recorded from limestone and in Selangor *C. pectinata* grows on granite rocks. The Kew specimen is selected as the lectotype because the sheet includes a description of the species and a rough flower dissection.

56. *Codonoboea platypus* (C.B.Clarke) C.L.Lim, ***comb. nov.***
Basionym: *Didymocarpus platypus* C.B.Clarke, in A.DC. & C.DC., Monogr. Phan. 5, 1 (1883) 94; Ridley, J. Straits Branch Roy. Asiat. Soc. 44 (1905) 46, J. Asiat. Soc. Bengal, Pt. 2, Nat. Hist. 74 (1908) 757, Fl. Malay Pen. 2 (1923) 517; Henderson, Malay. Wild Flowers Dicot. (1959) 348; Kiew, Malay Nat. J. 41 (1987) 220. **Synonym**: *Henckelia platypus* (C.B.Clarke) A.Weber, Beitr. Biol. Pflanzen 70 (1998) 352. TYPE: *Griffith 3825*, Peninsular Malaysia, Melaka [Malacca] (lectotype K, here designated).

Notes: Griffith 3825 is chosen as the lectotype because among the syntypes it is the only specimen with both flowers and fruits and which shows both the upper and lower leaf surfaces.

57. ***Codonoboea polyanthoides*** (Kiew) C.L.Lim, ***comb. nov.***
Basionym: *Didymocarpus polyanthoides* Kiew, Gard. Bull. Sing. 42 (1989) 56. **Synonym**: *Henckelia polyanthoides* (Kiew) A.Weber, Beitr. Biol. Pflanzen 70 (1998) 352. TYPE: *Kiew RK 2480*, Peninsular Malaysia, Pahang, Sungai Teku, 29 Mar 1987 (holotype KEP).

58. ***Codonoboea primulina*** (Ridl.) Kiew, ***comb. nov.***
Basionym: *Didymocarpus primulinus* Ridl., J. Fed. Malay States Mus. 10 (1922) 250, Fl. Malay Pen. 2 (1923) 522; Kiew, Malay. Naturalist 37, 2 (1983) 6, fig. **Synonym**: *Henckelia primulina* (Ridl.) A.Weber, Beitr. Biol. Pflanzen 70 (1998) 352. TYPE: *Ridley s.n.*, Peninsular Malaysia, Selangor, Klang Gates, Bukit Lompat Bayan, 2 Jan 1921 (lectotype SING, here designated; isotype K).

59. ***Codonoboea pulchella*** (Ridl.) C.L.Lim, ***comb. nov.***
Basionym: *Didymocarpus pulchellus* Ridl., J. Straits Branch Roy. Asiat. Soc. 44 (1905) 44, J. Asiat. Soc. Bengal, Pt. 2, Nat. Hist. 74 (1908) 755, Fl. Malay Pen. 2 (1923) 516. **Synonym**: *Henckelia pulchella* (Ridl.) A.Weber, Beitr. Biol. Pflanzen 70 (1998) 353. TYPE: *Machado H.B.S. 11629*, Peninsular Malaysia, Pahang, Kuala [Kwala] Lipis, May 1913 (lectotype SING, here designated; isotype K).

60. ***Codonoboea pumila*** (Ridl.) C.L.Lim, ***comb. nov.***
Basionym: *Didymocarpus pumilus* Ridl., J. Straits Branch Roy. Asiat. Soc. 44 (1905) 56, J. Asiat. Soc. Bengal, Pt. 2, Nat. Hist. 74 (1908) 763, Fl. Malay Pen. 2 (1923) 523; Henderson, Malay. Wild Flowers Dicot. (1959) 349. **Synonym**: *Henckelia nana* A.Weber, Beitr. Biol. Pflanzen 70 (1998) 350. TYPE: *Burn-Murdoch s.n.*, Peninsular Malaysia, Pahang, Gunung Semangkok [Semangko Pass], Feb 1904 (lectotype SING, here designated).

Note: Weber in Weber & Burtt (1998) re-named this species *Henckelia nana* because another species was already named *H. pumila*. Since 'pumila' has not been used in *Codonoboea*, the original specific name is retained for this species.

61. ***Codonoboea puncticulata*** (Ridl.) C.L.Lim, ***comb. nov.***
Basionym: *Didymocarpus puncticulatus* Ridl., J. Linn. Soc. 32 (1896) 510, J. Straits Branch Roy. Asiat. Soc. 44 (1905) 55, J. Asiat. Soc. Bengal, Pt. 2, Nat. Hist. 74 (1908) 763, Fl. Malay Pen. 2 (1923) 522; Kiew, Malay Nat. J. 41 (1987) 220. **Synonym**: *Henckelia puncticulata* (Ridl.) A.Weber, Beitr. Biol. Pflanzen 70 (1998) 353. TYPE: *Ridley s.n.*, Peninsular Malaysia, Johor, Gunung Panti, Dec 1892 (holotype SING, photo K).
Heterotypic synonym: *Didymocarpus perditus* Ridl., J. Straits Branch Roy. Asiat. Soc. 44 (1905) 54, J. Asiat. Soc. Bengal, Pt. 2, Nat. Hist. 74 (1908) 763, Fl. Malay Pen. 2 (1923) 522. TYPE: *Ridley s.n.*, Singapore, Selitar, 3 Nov 1889 (holotype SING).

Notes: Didymocarpus perditus was described from Singapore where Ridley (1905) discovered two plants in 1889. However, by 1905 he described the locality as destroyed by cultivation and thought the species probably extinct. Kiew (1987)

showed that it is conspecific with *Codonoboea puncticulata* from Peninsular Malaysia. It has never been collected again from Singapore so is certainly extinct there.

62. ***Codonoboea pyroliflora*** (Ridl.) Kiew, ***comb. nov.***
Basionym: *Didymocarpus pyroliflorus* Ridl., Trans. Linn. Soc, sen 2, Bot. 3 (1893) 330; Kiew, Gard. Bull. Sing. 42 (1989) 57. **Synonyms**: *Paraboea pyroliflora* (Ridl.) Ridl., J. Straits Branch Roy. Asiat. Soc. 44 (1905) 67, J. Asiat. Soc. Bengal, Pt. 2, Nat. Hist. 74 (1908) 772, Fl. Malay Pen. 2 (1923) 529. – *Henckelia pyroliflora* (Ridl.) A.Weber, Beitr. Biol. Pflanzen 70 (1998) 353. TYPE (lecto Kiew 1989): *Ridley 2164*, Peninsular Malaysia, Pahang, Sungai Tahan, Jul 1891 (lectotype K, isolectotypes BM, SING).

63. ***Codonoboea quinquevulnera*** (Ridl.) C.L.Lim, ***comb. nov.***
Basionym: *Didymocarpus quinquevulnerus* Ridl., Trans. Linn. Soc, ser 2, Bot. 3 (1893) 328, J. Straits Branch Roy. Asiat. Soc. 44 (1905) 47, J. Asiat. Soc. Bengal, Pt. 2, Nat. Hist. 74 (1908) 758, Fl. Malay Pen. 2 (1923) 518; Kiew, Gard. Bull. Sing. 42 (1989) 58. **Synonym**: *Henckelia quinquevulnera* (Ridl.) A.Weber, Beitr. Biol. Pflanzen 70 (1998) 353. TYPE (lecto Kiew, 1989): *Ridley 2153*, Peninsular Malaysia, Pahang, Sungai Tahan, Aug 1891 (lectotype K, isolectotype SING).

64. ***Codonoboea ramosa*** (Ridl.) Kiew, ***comb. nov.***
Basionym: *Didymocarpus ramosus* Ridl., J. Straits Branch Roy. Asiat. Soc. 44 (1905) 34, J. Asiat. Soc. Bengal, Pt. 2, Nat. Hist. 74 (1908) 749, Fl. Malay Pen. 2 (1923) 511. **Synonym**: *Henckelia ramosa* (Ridl.) A.Weber, Beitr. Biol. Pflanzen 70 (1998) 353. TYPE: *Wray 868*, Peninsular Malaysia, Perak, Gunung Batu Putih (holotype SING).

65. ***Codonoboea reptans*** (Jack) C.L.Lim, ***comb. nov.***
Basionym: *Didymocarpus reptans* Jack, Malayan Misc. 1, 5 (1820) 3; Ridley, J. Straits Branch Roy. Asiat. Soc. 44 (1905) 42, J. Asiat. Soc. Bengal, Pt. 2, Nat. Hist. 74 (1908) 754, Fl. Malay Pen. 2 (1923) 515; Henderson, Malay. Wild Flowers Dicot. (1959) 346, fig. 323. **Synonym**: *Henckelia reptans* (Jack) Spreng., Syst. veg. ed. 16; 4, 2 (1827) 14. TYPE: *Wallich 1830*, Peninsular Malaysia, Pulau Pinang [Penang], 1830 (neotype K).

Notes: Codonoboea reptans is a very variable species with wide ecological amplitude from the lowlands to mountains. The neotype is selected because it was also collected from the type locality in Pulau Pinang.

Only var. *monticola* is distinct from other subspecific taxa of *C. reptans* by its much narrower leaves. Whether var. *modesta* and var. *violascens* are distinct from the typical variety needs more field observations of variation between and within populations.

Codonoboea reptans var. ***modesta*** (Ridl.) C.L.Lim, ***comb. nov.***
Basionym: *Didymocarpus reptans* var. *modestus* Ridl., Fl. Malay Pen. 2 (1923) 516. **Synonym**: *Didymocarpus modestus* Ridl., J. Straits Branch Roy. Asiat. Soc.

82 (1920) 186, *nom. illeg.*, non *D. modestus* Redl. (1915). TYPE: *Ridley s.n.*, Peninsular Malaysia, Selangor, Ulu Gombak (lectotype K, here designated).

Note: Ridley's specimen is selected as lectotype because it includes a brief description and drawing of the flower.

Codonoboea reptans var. ***monticola*** (Ridl.) C.L.Lim, ***comb. nov.***
Basionym: *Didymocarpus reptans* var. *monticolus* Ridl., J. Linn. Soc. 32 (1896) 511, J. Straits Branch Roy. Asiat. Soc. 44 (1905) 42, J. Asiat. Soc. Bengal, Pt. 2, Nat. Hist. 74 (1908) 755, Fl. Malay Pen. 2 (1923) 516. **Synonym**: *Henckelia reptans* var. *monticola* (Ridl.) A.Weber, Beitr. Biol. Pflanzen 70 (1998) 354. TYPE: *Ridley 2913*, Peninsular Malaysia, Perak, Larut Hills, 1892 (lectotype BM, here designated).

Note: Among the specimens that Ridley cited, this specimen is selected as the lectotype because Ridley (1905) singled out the Larut Hills population as typical of this variety.

Codonoboea reptans var. ***violascens*** (Ridl.) C.L.Lim, ***comb. nov.***
Basionym: *Didymocarpus reptans* var. *violascens* Ridl., J. Straits Branch Roy. Asiat. Soc. 44 (1905) 43, J. Asiat. Soc. Bengal, Pt. 2, Nat. Hist. 74 (1908) 755, Fl. Malay Pen. 2 (1923) 516. TYPE: *Ridley 7583*, Peninsular Malaysia, Selangor, Rawang, May 1891 (lectotype SING, here designated; isotype K).

66. ***Codonoboea ridleyana*** (B.L.Burtt) Kiew, ***comb. nov.***
Basionym: *Didymocarpus ridleyanus* B.L.Burtt, Notes Roy. Bot. Gard. Edinburgh 23 (1960) 99; Kiew, Gard. Bull. Sing. 42 (1989) 59. **Synonyms**: *Didymocarpus grandiflorus* Ridl., J. Fed. Malay States Mus. 6 (1915) 167, Fl. Malay Pen. 2 (1923) 523, *non Didymocarpus grandiflorus* (Wall.) A.Dietr. ex Steud. – *Henckelia ridleyana* A.Weber, Beitr. Biol. Pflanzen 70 (1998) 354. TYPE: *Ridley s.n.*, Peninsular Malaysia, Pahang, Gunung Tahan, in forest by the stream below Wray's camp, Jul 1911 (holotype K).

Notes. 1. For reasons that are not at all clear, Weber considered *Didymocarpus ridleyanus* B.L.Burtt as an illegitimate name and on transferring this species to *Henckelia* recorded it as *H. ridleyana* A.Weber *nom. nov*. However, *Didymocarpus grandiflorus* (Wall.) A.Dietr. ex Steud. is a legitimate name based on *Chirita grandiflora* Wall. Correctly, Weber's combination should have been *Henckelia ridleyana* (B.L.Burtt) A.Weber.
2. Although reported to be in K (Kiew 1989, Vitek et al. 2000), no specimens of this species could be located in the collection in a recent (2010) search. Nor are there any at SING.

67. ***Codonoboea robinsonii*** (Ridl.) Kiew, ***comb. nov.***
Basionym: *Didymocarpus robinsonii* Ridl., J. Linn. Soc, Bot. 38 (1908) 318, Fl. Malay Pen. 2 (1923) 513; Kiew, Gard. Bull. Sing. 42 (1989) 59. **Synonym**: *Henckelia robinsonii* (Ridl.) A.Weber, Beitr. Biol. Pflanzen 70 (1998) 354. TYPE

(lecto Kiew, 1989): *Wray & Robinson 5470*, Peninsular Malaysia, Pahang, Gunung Tahan, 5 Jul 1905 (lectotype K, isolectotypes BM, SING).

68. ***Codonoboea rubiginosa*** (Ridl.) C.L.Lim, ***comb. nov.***
Basionym: *Paraboea rubiginosa* Ridl., J. Linn. Soc. 38 (1908) 319, Fl. Malay Pen. 2 (1923) 530. **Synonyms**: *Didymocarpus rubiginosus* (Ridl.) B.L.Burtt, Notes Roy. Bot. Gard. Edinburgh 31 (1971) 44; Kiew, Gard. Bull. Sing. 42 (1989) 59. – *Henckelia rubiginosa* (Ridl.) A.Weber, Beitr. Biol. Pflanzen 70 (1998) 355. TYPE (lecto Kiew, 1989): *Wray & Robinson 5390*, Peninsular Malaysia, Pahang, Gunung Tahan, 3 Jun 1905 (lectotype K, isolectotype SING).

69. ***Codonoboea rugosa*** (Ridl.) C.L.Lim, ***comb. nov.***
Basionym: *Didymocarpus rugosus* Ridl., J. Straits Branch Roy. Asiat. Soc. 44 (1905) 45, J. Asiat. Soc. Bengal, Pt. 2, Nat. Hist. 74 (1908) 756, Fl. Malay Pen. 2 (1923) 517. **Synonym**: *Henckelia rugosa* (Ridl.) A.Weber, Beitr. Biol. Pflanzen 70 (1998) 355. TYPE: *Gimlette s.n.*, Peninsular Malaysia, Kelantan, Kuala [Kwala] Lebir (holotype SING).
Heterotypic synonym: *Didymocarpus lithophilus* Kiew, (Gard. Bull. Sing. 42 (1989) 54, *nomen*), Gard. Bull. Sing. 44 (1992) 38. TYPE: *Ridley 2152*, Peninsular Malaysia, Pahang, Sungai Tahan, Aug 1891 (holotype K, isotype SING).

70. ***Codonoboea salicina*** (Ridl.) C.L.Lim, ***comb. nov.***
Basionym: *Didymocarpus salicinus* Ridl., Trans. Linn. Soc. ser 2, Bot., 3 (1893) 329, J. Straits Branch Roy. Asiat. Soc. 44 (1905) 52, J. Asiat. Soc. Bengal, Pt. 2, Nat. Hist. 74 (1908) 761; Kiew, Gard. Bull. Sing. 42 (1989) 60. **Synonyms**: *Paraboea salicina* (Ridl.) Ridl., Fl. Malay Pen. 2 (1923) 530. – *Henckelia salicina* (Ridl.) A.Weber, Beitr. Biol. Pflanzen 70 (1998) 355. TYPE (lecto Kiew, 1989): *Ridley 2166*, Peninsular Malaysia, Pahang, Sungai Tahan, Aug 1891 (lectotype K, isolectotypes BM, SING).
Heterotypic synonyms: *Didymocarpus filicifolius* Ridl., J. Fed. Malay States Mus. 6 (1916) 116, Fl. Malay Pen. 2 (1923) 530; Kiew, Gard. Bull. Sing. 42 (1989) 60. – *Paraboea filicifolia* (Ridl.) Ridl., Fl. Malay Pen. 2 (1923) 530. TYPE (lecto Kiew, 1989): *Ridley 16059*, Peninsular Malaysia, Pahang, Gunung Tahan, Padang, Jul 1911 (lectotype K, isolectotypes BM, SING).

71. ***Codonoboea salicinoides*** (Kiew) C.L.Lim, ***comb. nov.***
Basionym: *Didymocarpus salicinoides* Kiew, Gard. Bull. Sing. 44 (1992) 35. **Synonyms**: *Henckelia salicinoides* (Kiew) A.Weber, Beitr. Biol. Pflanzen 70 (1998) 355. – *Paraboea salicina* (Ridl.) Ridl. var. *major* Ridl., Fl. Malay Pen. 5 (1925) 325. TYPE (lecto Kiew, 1993): *Yapp 193*, Peninsular Malaysia, Kelantan, Kuala Aring (lectotype K, isolectotype CGE).

72. ***Codonoboea serratifolia*** (Ridl.) Kiew, ***comb. nov.***
Basionym: *Didymocarpus serratifolius* Ridl., J. Asiat. Soc. Bengal, Pt. 2, Nat. Hist. 74 (1909) 761, Fl. Malay Pen. 2 (1923) 521. **Synonyms**: *Didymocarpus serratus* Ridl., J. Straits Branch Roy. Asiat, Soc. 44 (1905) 52, *nom. illeg.*, non *D. serratus* R.Br. (1839). – *Henckelia serratifolia* (Ridl.) A.Weber, Beitr. Biol.

Pflanzen 70 (1998) 356. TYPE: *Ridley 11922*, Peninsular Malaysia, Perak, Larut Hills, below the Tea Gardens, Feb 1904 (lectotype SING, here designated; isolectotype K).

73. ***Codonoboea soldanella*** (Ridl.) C.L.Lim, ***comb. nov.***
Basionym: *Didymocarpus soldanellus* Ridl., J. Straits Branch Roy. Asiat. Soc. 61 (1912) 33, Fl. Malay Pen. 2 (1923) 523. **Synonym**: *Henckelia soldanella* (Ridl.) A.Weber, Beitr. Biol. Pflanzen 70 (1998) 356. TYPE: *Haniff s.n.*, Peninsular Malaysia, Perak, Gunung Korbu [Kerbau], Jul 1910. cult. B. G. Sing. (holotype SING).

74. ***Codonoboea stolonifera*** (Kiew) Kiew, ***comb. nov.***
Basionym: *Didymocarpus stoloniferus* Kiew, Gard. Bull. Sing. 44 (1992) 36. **Synonym**: *Henckelia stolonifera* (Kiew) A.Weber, Beitr. Biol. Pflanzen 70 (1998) 357. TYPE: *Kiew RK 1638*, Peninsular Malaysia, Pahang, Gunung Ulu Kali, 25 Mar 1985 (holotype KEP, isotype SING).

75. ***Codonoboea tiumanica*** (Ridl.) C.L.Lim, ***comb. nov.***
Basionym: *Paraboea tiumanica* Burkill ex Ridl., Fl. Malay Pen. 2 (1923) 530. **Synonyms**: *Didymocarpus tiumanicus* (Ridl.) B.L.Burtt, Notes Roy. Bot. Gard. Edinburgh 31 (1971) 44. – *Henckelia tiumanica* (Burkill ex Ridl.) A.Weber, Beitr. Biol. Pflanzen 70 (1998) 357. TYPE: *Burkill 1142*, Peninsular Malaysia, Pulau Tioman [Tiuman], West of Juara Bay, 29 Jun 1915 (lectotype K, here designated; isolectotype SING).

76. ***Codonoboea urticoides*** (A.Weber) Kiew, ***comb. nov.***
Basionym: *Didymocarpus urticifolius* Ridl., Fl. Malay Pen. 2 (1923) 511, non *D. urticifolius* (D.Don) Wonisch (1909). **Synonym**: *Henckelia urticoides* A.Weber, Beitr. Biol. Pflanzen 70 (1998) 358. SYNTYPES: *Ridley 14277*, Peninsular Malaysia, Perak, Temengor [Temengoh], Jul 1909 (?K); *Curtis 1328*, Taiping [Thaiping] Hills, Gunung Hijau, Dec 1887 (?K).

Notes: Its smaller stature and two-flowered inflorescences with larger flowers place this species in *Codonoboea* rather than *Didymocarpus*. Neither Weber (1998) nor Vitek et al. (2000) typified this species, although Vitek et al. cited both syntypes as being at K. However, a search there and at SING could not locate either of the syntypes nor any other specimens annotated as this species. Therefore it is not possible either to lectotypify or neotypify this species.

77. ***Codonoboea venusta*** (Ridl.) Kiew, ***comb. nov.***
Basionym: *Didymocarpus venustus* Ridl., J. Straits Branch Roy. Asiat. Soc. 44 (1905) 51, J. Asiat. Soc. Bengal, Pt. 2, Nat. Hist. 74 (1908) 760, Fl. Malay Pen. 2 (1923) 514; Kiew, Malay. Nat. J. 48 (1995) 206. **Synonym**: *Henckelia venusta* (Ridl.) A.Weber, Beitr. Biol. Pflanzen 70 (1998) 358. TYPE (lecto Kiew, 1995): *Curtis 3751*, Selangor, Gunung Semangkok, May 1902 (lectotype K, isolectotype SING).
Heterotypic synonyms: *Paraboea pubiflora* Ridl., J. Fed. Malay States Mus. 4

(1909) 51. – *Didymocarpus pubiflorus* (Ridl.) B.L.Burtt, Notes Roy. Bot. Gard. Edinburgh 31 (1971) 44. TYPE: *Robinson & Kloss s.n.*, Peninsular Malaysia, Pahang, Cameron Plateau, Nov 1908 (holotype BM *fide* Kiew (1995), isotype SING).

Note: Didymocarpus pubiflorus was reduced to synonomy by Kiew (1995).

78. *Codonoboea viscida* (Ridl.) Kiew, ***comb. nov.***
Basionym: *Didymocarpus viscidus* Ridl., J. Straits Branch Roy. Asiat. Soc. 44 (1905) 36, J. Asiat. Soc. Bengal, Pt. 2, Nat. Hist. 74 (1908) 750, Fl. Malay Pen. 2 (1923) 512. **Synonym**: *Henckelia viscida* (Ridl.) A.Weber, Beitr. Biol. Pflanzen 70 (1998) 359. TYPE: *Ridley 9781*, Peninsular Malaysia, Perak, Gunung Keledang, Sep 1898 (holotype SING).

79. *Codonoboea yongii* (Kiew) C.L.Lim, ***comb. nov.***
Basionym: *Didymocarpus yongii* Kiew, Gard. Bull. Sing. 42 (1989) 62. **Synonym**: *Henckelia yongii* (Kiew) A.Weber, Beitr. Biol. Pflanzen 70 (1998) 359. TYPE: *Kiew RK 2481*, Peninsular Malaysia, Pahang, Sungai Teku, 29 Mar 1987 (holotype KEP, isotypes K, L, SING).

Name of uncertain status

Paraboea scortechinii Ridl., J. Straits Branch Roy. Asiat. Soc. 44 (1905) 65, J. Asiat. Soc. Bengal, Pt. 2, Nat. Hist. 74 (1908) 772, Fl. Malay Pen. 2 (1923) 529. **Synonyms**: *Didymocarpus scortechinii* (Ridl.) B.L.Burtt, Notes Roy. Bot. Gard. Edinburgh 31(1971) 44. – *Henckelia scortechinii* (Ridl.) A.Weber, Beitr. Biol. Pflanzen 70 (1998) 356. TYPE: *Scortechini s.n.*, Peninsular Malaysia, Perak (?).

Notes: In the original description, Ridley (1905) noted that the species was known from 'a single incomplete specimen' that had no number or locality. It was presumably without fruits because no description of them was provided. He noted that it was allied to *P. cordifolia*, which unfortunately is an error because there is no species of this name. Among the species he described under *Paraboea*, from the description *P. scortechinii* is most similar to *P. cordata* (A.DC.) Ridl. so it is likely that he intended *P. cordata* when he wrote *P. cordifolia*. In 1923, Ridley again recorded it as 'very little known' and no further specimens were cited.

Burtt (1971) transferred all the short-flowered species in Ridley's *Paraboea* sect. *Campanulatae* that included *P. scortechinii* to *Didymocarpus* stating 'although it has not been possible to confirm the botanical validity of every species, it seems desirable to provide names in *Didymocarpus* if they are not already available'. He did not cite a type so it is not clear whether he had seen any specimens of this species.

However, since then *Didymocarpus* has been redefined (Weber & Burtt 1983) to include species with fruits that split along both sutures (among other characters) while those that split only on the upper side were included in *Henckelia*. *Didymocarpus cordatus* A.DC. remained in *Didymocarpus*. Weber

& Burtt (1998) transferred *D. scortechinii* to *Henckelia* without comment. Vitek et al. (2000) did not locate the type nor did our search, nor have specimens subsequently been collected that have been identified as this species.

From the description, *P. scortechinii* is in fact more similar to *D. cordatus* in leaf shape, in its branched panicles and half-inch long flowers, than it is to the other short-flowered campanulate species transferred first to *Didymocarpus* and then to *Henckelia* and now to *Codonoboea*. However, without the fruit the affinity of this species to either *Didymocarpus* or *Codonoboea* cannot be resolved. Its half-inch long campanulate flower excludes it from belonging to *Paraboea* as now redefined by Burtt (1984). Species of *Paraboea* in Peninsular Malaysia are restricted to limestone but without locality data the habitat of this species remains unknown. For all these reasons *Paraboea scortechinii* is listed here as a dubious name.

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