

Nomenclatural Changes in the Genus *Calanthe* (Orchidaceae)

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Abstract Results of recent molecular phylogenetic analyses revealed that the genus *Calanthe* (Orchidaceae) represents a polyphyletic assemblage. To resolve this issue, we resurrect two groups, *Preptanthe* and *Styloglossum*, at generic rank and make the necessary new combinations.

Key words: *Calanthe*, new combinations, Orchidaceae, taxonomy.

Introduction

The genus *Calanthe* R.Br. has been recognised as one of the larger orchid genera in which 207 species are currently accepted (Clayton and Cribb, 2013). Circumscription of the genus is stable in recent taxonomic treatments and regional floras (e.g. Chen *et al.*, 2009; Comber, 2001; Nakajima and Ohba, 2011; Wood *et al.*, 2011). However, phylogenetic relationships within this genus and affinities with allied genera such as *Cephalantheropsis* Guillaumin, *Gastrorchis* Thouars, and *Phaius* Lour. have remained unresolved.

Yukawa and Ishida (2008) and Yukawa (2013) conducted molecular phylogenetic analyses of 53 species of *Calanthe* that cover major infrageneric groups and representative species of allied genera. These studies found the following seven clades: 1) *Calanthe* sections *Calanthe*, *Ghiesbretia*, *Monophylla*, and *Vernae*; 2) *Calanthe* sections *Styloglossum* and *Rhodochilus*; 3) *Cephalantheropsis*; 4) *Phaius tankervilleae* group; 5) *Gastrorchis* and *Phaius pulchellus*; 6) *Phaius flavus* group; 7) *Calanthe* subgenus *Preptanthe*. Since the results definitely showed that *Calanthe* and *Phaius* do not represent monophyletic

groups, current generic classification breaks the consistency of *Calanthe* and *Phaius*. Subsequently, Xiang *et al.* (2014) and Zhai *et al.* (2014) analysed relationships in *Calanthe* and allied groups by using different species and different genetic regions and results of these studies were consistent with the above-mentioned relationships.

Two alternative scenarios can be proposed to restore the monophyly of *Calanthe* and *Phaius*: one is to redefine the four genera, *Calanthe*, *Cephalantheropsis*, *Gastrorchis*, and *Phaius*, as a single genus. The other is to recircumscribe *Calanthe* and *Phaius* in a narrow sense. In the former option, the oldest available generic name for this group is *Phaius* (Loureiro, 1790). This treatment necessitates a lot of changes for well-established names of *Calanthe*. It is thus contended that a broad definition of *Phaius* including *Calanthe*, *Cephalantheropsis*, and *Gastrorchis* violates the aim of nomenclatural stability. Consequently, we adopt the latter option in which *Calanthe* and *Phaius* are narrowly defined.

In that case, the redefined *Calanthe* corresponds to the clade comprising sections *Calanthe*, *Ghiesbretia*, *Monophylla*, and *Ver-*

nae (Clade 1) because the type species of the genus, *C. veratrifolia* (now accepted as a synonym of *C. triplicata*) is included in this clade. As a result, the two remaining clades of the genus *Calanthe*, one comprising sections *Styloglossum* and *Rhodochilus* (Clade 2) and the other corresponding to subgenus *Preptanthe* (Clade 7), need to be treated as independent genera. Sections *Styloglossum* and *Rhodochilus* should be replaced by genus *Styloglossum* and subgenus *Preptanthe* should be elevated to genus *Preptanthe*. In summary, the current concept of *Calanthe* is necessarily to be subdivided into three genera, *Calanthe*, *Styloglossum*, and *Preptanthe* from the standpoint of taxonomic consistency. Here we present new combinations in accordance with this treatment.

Taxonomic Treatment

- Preptanthe** Rchb.f. in *Fl. Serres* Jard. Eur. 8: 245 (1853). Type: *Preptanthe vestita* (Lindl.) Rchb.f.
Calanthe subgenus *Preptanthe* (Rchb.f.) Schltr. in *Repert. Spec. Nov. Regni Veg. Beih.* 1: 377 (1912).
- Preptanthe cardioglossa** (Schltr.) T.Yukawa & P.J.Cribb, **comb. nov.**
 Basionym: *Calanthe cardioglossa* Schltr. in *Repert. Spec. Nov. Regni Veg. Beih.* 2: 85 (1906).
Calanthe hosseusiana Kraenzl. in *Repert. Spec. Nov. Regni Veg. Beih.* 7: 82 (1909), *nom. superfl.*
Calanthe cardiochila Kraenzl. in *Repert. Spec. Nov. Regni Veg. Beih.* 7: 83 (1909), *orth. var.*
- Preptanthe elmeri** (Ames) T.Yukawa & P.J.Cribb, **comb. nov.**
 Basionym: *Calanthe elmeri* Ames, *Orch.* 2: 154 (1908).
- Preptanthe hirsuta** (Seidenf.) T.Yukawa & P.J.Cribb, **comb. nov.**
 Basionym: *Calanthe hirsuta* Seidenf. in *Dansk Bot. Arkiv* 29: 39 (1975).
- Preptanthe labrosa** (Rchb.f.) T.Yukawa & P.J.Cribb, **comb. nov.**
 Basionym: *Limatodis labrosa* Rchb.f. in *Gard. Chron.* n.s. 11: 202 (1879).
Calanthidium labrosum (Rchb.f.) Pfitz., *Nat. Pflanzenfam.* 2, 6: 153 (1889).
Calanthe labrosa (Rchb.f.) Hook.f., *Fl. Brit. India* 5: 856 (1890).
Alismorkis labrosa (Rchb.f.) Kuntze, *Revis. Gen. Pl.* 2: 650 (1891).
- Preptanthe papuana** (Schltr.) T.Yukawa & P.J.Cribb, **comb. nov.**
 Basionym: *Aulostylis papuana* Schltr. in *Repert. Spec. Nov. Regni Veg. Beih.* 1: 392 (1912).
Calanthe papuana (Schltr.) J.J.Sm. in *Nova Guinea* 14: 359 (1929).
- Preptanthe punctata** (Kurzweil) T.Yukawa & P.J.Cribb, **comb. nov.**
 Basionym: *Calanthe punctata* Kurzweil in *Gard. Bull. Singapore* 65: 163 (2013).
- Preptanthe rosea** (Lindl.) T.Yukawa & P.J.Cribb, **comb. nov.**
 Basionym: *Limatodis rosea* Lindl. in *Pact., Fl. Gard.* 3: 35 (1852).
Calanthe rosea (Lindl.) Benth. in *J. Linn. Soc. Bot.* 18: 309 (1880).
Alismorkis rosea (Lindl.) Kuntze, *Revis. Gen. Pl.* 2: 650 (1891).
- Preptanthe succedanea** (Gagnep.) T.Yukawa & P.J.Cribb, **comb. nov.**
 Basionym: *Calanthe succedanea* Gagnep. in *Bull. Mus. Natl. Hist. Nat. Paris* 2, 3: 324 (1931).
- Styloglossum** Breda, *Gen. Sp. Orchid. Asclep.* 2: t. 7 (1829). Type: *Styloglossum nervosum* Breda.
Calanthe section *Styloglossum* (Breda) J.J.Sm., *Fl. Buitenzorg* 6: 202 (1905).

Calanthe section *Rhodochilus* Schltr., in *Repert. Spec. Nov. Regni Veg. Beih.* 1: 376 (1912), **syn. nov.**

Styloglossum alboluteum (Ridl.) T.Yukawa & P.J.Cribb, **comb. nov.**

Basionym: *Calanthe albolutea* Ridl. in *J. Straits Branch Roy. Asiat. Soc.* 39: 80 (1903).

Styloglossum angustifolium (Blume) T.Yukawa & P.J.Cribb, **comb. nov.**

Basionym: *Amblyglottis angustifolia* Blume, *Bijdr.*: 369 (1825).

Calanthe angustifolia (Blume) Lindl., *Gen. Spec. Orch. Pl.*: 251 (1833).

Calanthe phajoides Rchb.f., *Xenia Orch.* 1: 207 (1856).

Alismorkis angustifolia (Blume) Kuntze, *Revis. Gen. Pl.* 2: 650 (1891).

Alismorkis phajoides (Rchb.f.) Kuntze, *Revis. Gen. Pl.* 2: 650 (1891).

Calanthe angustifolia var. *flava* Ridl., *Fl. Malay Penins.* 4: 120 (1924).

Calanthe angustifolia var. *sumatrana* Carr in *J. Malayan Branch Roy. Asiat. Soc.* 11: 79 (1933).

Calanthe pumila Fukuy. in *Bot. Mag. Tokyo* 49: 438 (1935).

Calanthe striata var. *pumila* (Fukuy.) S.S.Ying, *Col. Ill. Indig. Orch. Taiwan* 1: 430 (1977).

Styloglossum aquamarinum (Schuit. & de Vogel) T.Yukawa & P.J.Cribb, **comb. nov.**

Basionym: *Calanthe aquamarina* Schuit. & de Vogel in *Malesian Orchid J.* 4: 102 (2009).

Styloglossum aurantiacum (Ridl.) T.Yukawa & P.J.Cribb, **comb. nov.**

Basionym: *Calanthe aurantiaca* Ridl. in *J. Straits Branch Roy. Asiat. Soc.* 39: 80 (1903).

Calanthe rajana J.J.Sm. in *Mitt. Inst. Allg. Bot. Hamburg* 7: 39 (1927).

Calanthe atjehensis J.J.Sm. in *Blumea* 5: 308 (1943).

Styloglossum aureiflorum (J.J.Sm.) T.Yukawa & P.J.Cribb, **comb. nov.**

Basionym: *Calanthe aureiflora* J.J.Sm. in *Bull. Jard. Bot. Buitenzorg* 3, 5: 67 (1922).

Styloglossum balansae (Finet) T.Yukawa & P.J.Cribb, **comb. nov.**

Basionym: *Calanthe balansae* Finet in *Bull. Soc. Bot. France* 46: 435 (1900).

Calanthe saccifera Kraenzl. in *Vierteljahrsschr. Naturf. Ges. Zürich* 74: 79 (1929).

Styloglossum carrii (Seidenf. & J.J.Wood ex Govaerts) T.Yukawa & P.J.Cribb, **comb. nov.**

Basionym: *Calanthe carrii* Seidenf. & J.J.Wood ex Govaerts in *World Checklist Seed Pl.* 3, 1: 11 (1999).

Calanthe pusilla Carr in *Gard. Bull. Straits Settlement.* 5: 147 (1930), *non* Finet (1899).

Styloglossum caulescens (J.J.Sm.) T.Yukawa & P.J.Cribb, **comb. nov.**

Basionym: *Calanthe caulescens* J.J.Sm. in *Bull. Jard. Bot. Buitenzorg* 2, 2: 2 (1911).

Calanthe apostasioides Schltr. in *Repert. Spec. Nov. Regni Veg. Beih.* 1: 377 (1912).

Calanthe salmoniviridis P.Royen, *Alp. Fl. New Guinea* 2: 134 (1979).

Styloglossum caulodes (J.J.Sm.) T.Yukawa & P.J.Cribb, **comb. nov.**

Basionym: *Calanthe caulodes* J.J.Sm. in *Bot. Jahrb. Syst.* 65: 468 (1933).

Styloglossum chevalieri (Gagnep.) T.Yukawa & P.J.Cribb, **comb. nov.**

Basionym: *Calanthe chevalieri* Gagnep. in *Bull. Mus. Nat. Hist. Paris* 2, 3: 322 (1931).

Styloglossum chrysanthum (Schltr.) T.Yukawa & P.J.Cribb, **comb. nov.**

Basionym: *Calanthe chrysantha* Schltr. in K. Schum. & C.A.G.Lauterbach, *Fl. Schutzgeb. Deutsch Südsee, Nachtr.*: 141 (1905).

Calanthe chrysantha var. *orbicularis* J.J.Sm. in

Bot. Jahrb. Syst. 66: 178 (1934).

16: 15 (2006).

Styloglossum chrysroleucum (Schltr.) T.Yukawa & P.J.Cribb, **comb. nov.**

Basionym: *Calanthe chrysroleuca* Schltr. in *Repert. Spec. Nov. Regni Veg. Beih.* 1: 386 (1912).

Styloglossum ecallosum (J.J.Sm.) T.Yukawa & P.J.Cribb, **comb. nov.**

Basionym: *Calanthe ecallosa* J.J.Sm. in *Bull. Jard. Bot. Buitenzorg* 2, 9: 26 (1913).

Styloglossum clavatum (Lindl.) T.Yukawa & P.J.Cribb, **comb. nov.**

Basionym: *Calanthe clavata* Lindl., *Gen. Sp. Orch. Pl.*: 251 (1833), *non* Kraenzl. (1898).

Alismorkis clavata (Lindl.) Kuntze, *Rev. Gen. Pl.* 2: 650 (1891).

Calanthe clavata var. *malipoensis* Z.H.Tsi in *Acta Phytotax. Sin.* 19: 508 (1981).

Styloglossum englishii (Rolfe) T.Yukawa & P.J.Cribb, **comb. nov.**

Basionym: *Calanthe englishii* Rolfe in *Bull. Misc. Inf. Kew* 1899: 111 (1899).

Styloglossum epiphyticum (Carr) T.Yukawa & P.J.Cribb, **comb. nov.**

Basionym: *Calanthe epiphytica* Carr in *J. Malayan Branch Roy. Asiat. Soc.* 11: 80 (1933).

Styloglossum clavicalcar (J.J.Sm.) T.Yukawa & P.J.Cribb, **comb. nov.**

Basionym: *Calanthe clavicalcar* J.J.Sm. in *Bull. Jard. Bot. Buitenzorg* 3, 5: 68 (1922).

Styloglossum habbemense (Ormerod & P.J.Cribb) T.Yukawa & P.J.Cribb, **comb. nov.**

Basionym: *Calanthe habbemensis* Ormerod & P.J.Cribb in *Malesian Orchid. J.* 8: 51 (2011).

Styloglossum cleistogamum (Holtum) T. Yukawa & P.J.Cribb, **comb. nov.**

Basionym: *Calanthe cleistogama* Holtum in *Gard. Bull. Sing.* 11: 277 (1947).

Styloglossum halconensis (Ames) T.Yukawa & P.J.Cribb, **comb. nov.**

Basionym: *Calanthe halconensis* Ames in *Phil. J. Sci. C* 2: 324 (1907).

Styloglossum cruciatum (Schltr.) T.Yukawa & P.J.Cribb, **comb. nov.**

Basionym: *Calanthe cruciata* Schltr. in *Repert. Spec. Nov. Regni Veg. Beih.* 1: 389 (1912).

Styloglossum hololeucum (Rchb.f.) T.Yukawa & P.J.Cribb, **comb. nov.**

Basionym: *Calanthe hololeuca* Rchb.f. in B. Seemann, *Fl. Vit.*: 298 (1868).

Styloglossum densiflorum (Lindl.) T.Yukawa & P.J.Cribb, **comb. nov.**

Basionym: *Calanthe densiflora* Lindl., *Gen. Sp. Orch. Pl.*: 250 (1833).

Alismorkis densiflora (Lindl.) Kuntze, *Rev. Gen. Pl.* 2: 650 (1891).

Calanthe kazuoi Yamam. in *Trans. Nat. Hist. Soc. Formosa* 20: 38 (1930).

Phaius epiphyticus Seidenf. in *Nord. J. Bot.* 5: 159 (1985).

Calanthe vaupeliana Kraenzl. in *Notizbl. Bot. Gart. Berlin* 5: 111 (1909).

Calanthe neocaledonica Rendle in *J. Linn. Soc. Bot.* 45: 251 (1921).

Styloglossum hyacinthinum (Schltr.) T.Yukawa & P.J.Cribb, **comb. nov.**

Basionym: *Calanthe hyacinthina* Schltr. in *Repert. Spec. Nov. Regni Veg. Beih.* 21: 178 (1925).

Styloglossum duyenum (Aver.) T.Yukawa & P.J.Cribb, **comb. nov.**

Basionym: *Calanthe duyana* Aver. in *Rheede*

Styloglossum inflatum (Schltr.) T.Yukawa & P.J.Cribb, **comb. nov.**

Basionym: *Calanthe inflata* Schltr. in *Repert.*

- Spec. Nov. Regni Veg. Beih.* 1: 390 (1912).
- Styloglossum johorense** (Holtum) T.Yukawa & P.J.Cribb, **comb. nov.**
 Basionym: *Calanthe johorensis* Holtum in *Gard. Bull. Sing.* 11: 277 (1947).
- Styloglossum lancilabre** (Ormerod & P.J.Cribb) T.Yukawa & P.J.Cribb, **comb. nov.**
 Basionym: *Calanthe lancilabris* Ormerod & P.J.Cribb in *Malesian Orchid J.* 8: 51 (2011).
- Styloglossum leucosceptrum** (Schltr.) T.Yukawa & P.J.Cribb, **comb. nov.**
 Basionym: *Calanthe leucosceptrum* Schltr. in *Repert. Spec. Nov. Regni Veg. Beih.* 1: 388 (1912).
Calanthe labellicauda Gilli in *Ann. Naturhist. Mus. Wien B* 84: 18 (1980, publ. 1983).
- Styloglossum leucosceptrum** (Schltr.) T.Yukawa & P.J.Cribb var. **bisubuliferum** (J.J.Sm.) T.Yukawa & P.J.Cribb, **comb. nov.**
 Basionym: *Calanthe leucosceptrum* Schltr. var. *bisubulifera* J.J.Sm. in *Nova Guinea* 14: 358 (1929).
- Styloglossum longifolium** (Schltr.) T.Yukawa & P.J.Cribb, **comb. nov.**
 Basionym: *Calanthe longifolia* Schltr. in *Repert. Spec. Nov. Regni Veg. Beih.* 1: 387 (1912).
- Styloglossum lyroglossum** (Rchb.f.) T.Yukawa & P.J.Cribb, **comb. nov.**
 Basionym: *Calanthe lyroglossa* Rchb.f., *Otia Bot. Hamburg.* 1: 53 (1878).
Calanthe foerstermannii Rchb.f. in *Gard. Chron.* n.s. 19: 814 (1883).
Alismorkis foerstermannii (Rchb.f.) Kuntze, *Rev. Gen. Pl.* 2: 650 (1891).
Alismorkis lyroglossa (Rchb.f.) Kuntze, *Rev. Gen. Pl.* 2: 650 (1891).
Calanthe forsythiiflora Hayata, *Icon. Pl. Formos.* 4: 67 (1914).
Calanthe liukiensis Schltr. in *Repert. Spec. Nov. Regni Veg. Beih.* 4: 67 (1919).
- Calanthe nephroidea* Gagnep. in *Bull. Mus. Natl. Hist. Nat.*, 2, 22: 625 (1951).
Calanthe lyroglossa var. *forsythiiflora* (Hayata) S.S.Ying, *Col. Ill. Indig. Orch. Taiwan* 1: 88 (1977).
- Styloglossum lyroglossum** (Rchb.f.) T.Yukawa & P.J.Cribb var. **longibracteatum** (O'Byrne) T.Yukawa & P.J.Cribb, **comb. nov.**
 Basionym: *Calanthe lyroglossa* var. *longibracteata* O'Byrne in *Malayan Orchid Rev.* 31: 29 (1997).
- Styloglossum lyroglossum** (Rchb.f.) T.Yukawa & P.J.Cribb var. **actinomorpha** (Fukuy.) T.Yukawa & P.J.Cribb, **comb. nov.**
 Basionym: *Calanthe actinomorpha* Fukuy. in *Bot. Mag. Tokyo* 49: 668 (1935).
Phaius actinomorpha (Fukuy.) T.P.Lin, *Nat. Orch. Taiwan*: 224 (1975).
Calanthe lyroglossa var. *actinomorpha* (Fukuy.) P.J.Cribb & D.A.Clayton, *The Genus Calanthe*: 85 (2013).
- Styloglossum maquilingense** (Ames) T.Yukawa & P.J.Cribb, **comb. nov.**
 Basionym: *Calanthe maquilingensis* Ames, *Orch.* 5: 97 (1915).
- Styloglossum microglossum** (Ridl.) T.Yukawa & P.J.Cribb, **comb. nov.**
 Basionym: *Calanthe microglossa* Ridl. in *J. Straits Branch Roy. Asiat. Soc.* 39: 81 (1903).
- Styloglossum musa-amanii** (J.J.Wood & C.L.Chan) T.Yukawa & P.J.Cribb, **comb. nov.**
 Basionym: *Calanthe musa-amanii* J.J.Wood & C.L.Chan in J.J.Wood *et al.*, *Orch. Mount Kinabalu* 2: 162 (2011).
- Styloglossum neohibernicum** (Schltr.) T.Yukawa & P.J.Cribb, **comb. nov.**
 Basionym: *Calanthe neohibernica* Schltr. in K.M.Schumann & C.A.G.Lauterbach, *Fl.*

- Schutzgeb. Deutsch Südsee, Nachtr.*: 142 (1905).
- Styloglossum nicolae** (O'Byrne) T.Yukawa & P.J.Cribb, **comb. nov.**
 Basionym: *Calanthe nicolae* O'Byrne in *Malayan Orchid Rev.* 30: 69 (1996).
- Styloglossum oreadam** (Rendle) T.Yukawa & P.J.Cribb, **comb. nov.**
 Basionym: *Calanthe oreadam* Rendle in *J. Linn. Soc. Bot.* 45: 250 (1921).
- Styloglossum parvilabre** (Schltr.) T.Yukawa & P.J.Cribb, **comb. nov.**
 Basionym: *Calanthe parvilabris* Schltr. in K.M.Schumann & C.A.G.Lauterbach, *Fl. Schutzgeb. Deutsch Südsee, Nachtr.*: 143 (1905).
- Styloglossum pulchrum** (Blume) T.Yukawa & P.J.Cribb, **comb. nov.**
 Basionym: *Amblyglottis pulchra* Blume, *Bijdr.*: 371 (1825).
Styloglossum nervosum Breda, *Gen. Sp. Orchid. Asclep.* 2: t. 7 (1829).
Calanthe pulchra (Blume) Lindl., *Gen. Sp. Orch. Pl.*: 250 (1833).
Calanthe curculigoides Lindl., *Gen. Sp. Orch. Pl.*: 251 (1833).
Alismorkis pulchra (Blume) Kuntze, *Rev. Gen. Pl.* 2: 650 (1891).
Alismorkis curculigoides (Lindl.) Kuntze, *Rev. Gen. Pl.* 2: 650 (1891).
Calanthe shelfordii Ridl. in *J. Straits Branch Roy. Asiat. Soc.* 33: 23 (1900).
- Styloglossum rhodochilum** (Schltr.) T.Yukawa & P.J.Cribb, **comb. nov.**
 Basionym: *Calanthe rhodochila* Schltr. in K.M.Schumann & C.A.G.Lauterbach, *Fl. Schutzgeb. Deutsch Südsee, Nachtr.*: 143 (1905).
Calanthe breviscapa J.J.Sm. in *Bull. Jard. Bot. Buitenzorg* 2, 2: 1 (1911).
Calanthe bracteosa Schltr. in *Bot. Jahrb. Syst.* 58: 128 (1923), non Rehb.f. (1882).
- Styloglossum rhodochilum** (Schltr.) T.Yukawa & P.J.Cribb var. **reconditiflorum** (J.J.Sm.) T. Yukawa & P.J.Cribb, **comb. nov.**
 Basionym: *Calanthe reconditiflora* J.J.Sm. in *Bull. Jard. Bot. Buitenzorg* 3, 10: 108 (1928).
Calanthe manis J.J.Sm., *Nova Guinea* 14: 356 (1929).
Calanthe rhodochila var. *reconditiflora* (J.J.Sm.) S.Thomas in *Blumea* 44: 29 (1999).
- Styloglossum rigidum** (Carr) T.Yukawa & P.J.Cribb, **comb. nov.**
 Basionym: *Calanthe rigida* Carr in *Gard. Bull. Straits Settlem.* 5: 145 (1930).
Calanthe rigida Carr var. *gracilis* Carr in *J. Malayan Branch Roy. Asiat. Soc.* 11: 81 (1933).
- Styloglossum ruttenii** (J.J.Sm.) T.Yukawa & P.J.Cribb, **comb. nov.**
 Basionym: *Calanthe ruttenii* J.J.Sm. in *Bull. Jard. Bot. Buitenzorg* 3, 10: 109 (1928).
- Styloglossum saccatum** (J.J.Sm.) T.Yukawa & P.J.Cribb, **comb. nov.**
 Basionym: *Calanthe saccata* J.J.Sm. in *Bull. Inst. Bot. Buitenzorg* 7: 3 (1900).
- Styloglossum salaccense** (J.J.Sm.) T.Yukawa & P.J.Cribb, **comb. nov.**
 Basionym: *Calanthe salaccensis* J.J.Sm. in *Bull. Dép. Agric. Indes Néerl.* 43: 21 (1910).
- Styloglossum speciosum** (Blume) T.Yukawa & P.J.Cribb, **comb. nov.**
 Basionym: *Amblyglottis speciosa* Blume, *Bijdr.*: 371 (1825).
Calanthe speciosa (Blume) Lindl., *Gen. Sp. Orch. Pl.*: 250 (1833).
Calanthe scortechinii Hook.f., *Fl. Brit. India* 5: 854 (1890).
Alismorkis speciosa (Blume) Kuntze, *Rev. Gen. Pl.* 2: 650 (1891).
Calanthe formosana Rolfe in *Ann. Bot. London* 9: 157 (1895).
Calanthe yushunii K.Mori & Yamam. in *J. Soc.*

- Trop. Agric. Taiwan* 4: 188 (1932).
Calanthe patsinensis S.Y.Hu in *Chung Chi J.* 11: 13 (1972).
Calanthe disticha Tang & F.T.Wang in *Acta Phytotax. Sin.* 12: 43 (1974).
Calanthe pulchra var. *formosana* (Rolfe) S.S.Ying, *Col. Illust. Indig. Orch. Taiwan* 1: 430 (1977).
- Styloglossum stella*** (P.J. Cribb) T.Yukawa & P.J.Cribb, *comb. nov.*
 Basionym: *Calanthe stella* P.J.Cribb in *Malasian Orchid J.* 4: 13 (2009).
- Styloglossum stenophyllum*** (Schltr.) T.Yukawa & P.J.Cribb, *comb. nov.*
 Basionym: *Calanthe stenophylla* Schltr. in *Repert. Spec. Nov. Regni Veg. Beih.* 1: 388 (1912).
- Styloglossum truncicolum*** (Schltr.) T.Yukawa & P.J.Cribb, *comb. nov.*
 Basionym: *Calanthe truncicola* Schltr. in *Beibl. Bot. Jahrb. Syst.* 104: 26 (1911).
- Styloglossum tunense*** (J.J.Sm.) T.Yukawa & P.J.Cribb, *comb. nov.*
 Basionym: *Calanthe tunensis* J.J.Sm. in *Bull. Inst. Bot. Buitenzorg* 7: 3 (1900).
Calanthe flabelliformis R.S.Rogers in *Trans. & Proc. Roy. Soc. S. Austr.* 49: 259 (1925).
- Styloglossum ventilabrum*** (Rchb.f.) T.Yukawa & P.J.Cribb, *comb. nov.*
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