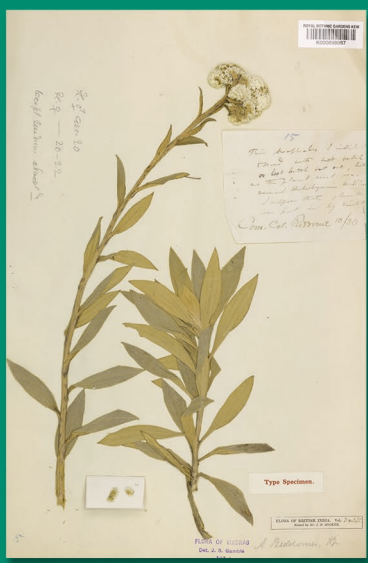
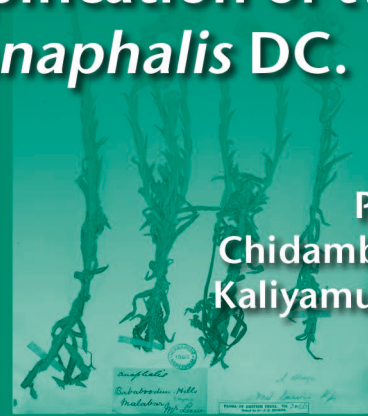
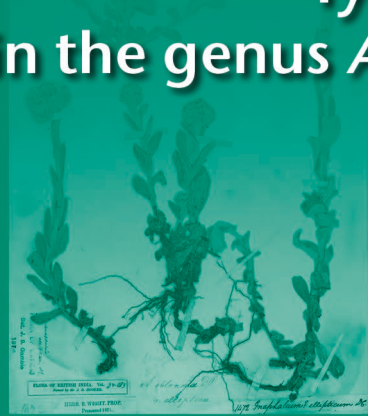


Typification of twelve names in the genus *Anaphalis* DC. (Asteraceae)

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Typification of twelve names in the genus *Anaphalis* DC. (Asteraceae)

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KEY WORDS
Gamopetalae,
Gnaphalieae,
Anaphalis,
Western Ghats,
endemic species,
lectotypifications.

ABSTRACT

In the present study, lectotypes for 12 names viz. *Anaphalis beddomei* Hook.f., *Anaphalis bournei* Fyson, *Anaphalis elliptica* DC., *Anaphalis oblonga* DC., *Anaphalis oblonga* var. *lawii* Hook.f., *Anaphalis meeboldii* W.W.Sm., *Anaphalis travancorica* W.W.Sm., *Gnaphalium marcescens* Wight, *Gnaphalium neelgherryanum* DC., *Gnaphalium subdecurrens* DC., *Gnaphalium wightianum* DC. and *Helichrysum leptophyllum* DC. are designated. Detailed notes and images of type specimens are provided.

RÉSUMÉ

Typification de douze noms dans le genre Anaphalis DC. (Asteraceae).

Dans la présente étude, les lectotypes de 12 noms, à savoir *Anaphalis beddomei* Hook.f., *Anaphalis bournei* Fyson, *Anaphalis elliptica* DC., *Anaphalis oblonga* DC., *Anaphalis oblonga* var. *lawii* Hook.f., *Anaphalis meeboldii* W.W.Sm., *Anaphalis travancorica* W.W.Sm., *Gnaphalium marcescens* Wight, *Gnaphalium neelgherryanum* DC., *Gnaphalium subdecurrens* DC., *Gnaphalium wightianum* DC. et *Helichrysum leptophyllum* DC. sont désignés. Des notes détaillées et des images des spécimens types sont fournies.

MOTS CLÉS
Gamopetalae,
Gnaphalieae,
Anaphalis,
Ghâts occidentaux,
espèces endémiques,
lectotypifications.

INTRODUCTION

The genus *Anaphalis* DC. consists of *c.* 110 species (Mabberley 2018) and represents the largest genus in the tribe *Gnaphalieae* (Asteraceae, Nie *et al.* 2013). It can be easily differentiated from other genera by having subdioecy in the ratio of female to bisexual florets in the capitula and other morphological characters such as style arm cells, anther apices, involucre bract hairs and also DNA sequence evidence (Anderberg 1991; Glenly 1997; Glenly & Wagstaff 1997). In India, the genus represented by 43 taxa (34 species and 9 varieties) (Karthikeyan *et al.* 2009), among them 70% are endemic to Western Ghats (Pant 1995; Nayar *et al.* 2014; Singh *et al.* 2015). During taxonomic studies on the family Asteraceae of Kerala, under the “Flora of India Project”, we found that some of the names are yet to be lectotyped. Twelve names of the genus *Anaphalis* DC. are lectotyped here following the guidelines of Turland *et al.* (2018).

TYPIFICATIONS

Family ASTERACEAE Bercht. & J.Presl
Genus *Anaphalis* DC.

Anaphalis beddomei Hook.f.

In Flora of British India 3: 282 (Hooker 1881) (Fig. 1A).

TYPE CITATION. — “Western Peninsula by *Beddome*”.

LECTOTYPE (HERE DESIGNATED). — **India**. s.l., X.1880, *R.H. Beddome s.n.* (lecto-, K[K000898987 image!]).

RESIDUAL SYNTYPES. — **India**. Kerala, Devaculam, Travancore, s.d., *R.H. Beddome s.n.* (syn-, MH[MH00104372]!; MH[MH00104373]!).

DISTRIBUTION. — India (Kerala and Tamil Nadu), endemic.

REMARKS

Hooker (1881) in his ‘*Flora of British India*’ described *A. beddomei* based on the specimens collected from Western Peninsula by Beddome. We have traced three specimens in two herbaria, one at Kew Herbarium (K000898987) and two at Madras Herbarium (MH00104372, MH00104373!). The specimen K000898987 which is better preserved and contains annotations by J. D. Hooker is designated here as the lectotype of *A. beddomei*.

Anaphalis bournei Fyson

Bulletin of Miscellaneous Information, Royal Botanic Gardens, Kew 1914: 209 (Fyson 1914) (Fig. 1B).

TYPE CITATION. — “South India, Pulney Hills, dry and rocky places, *Bourne* 2696, *Fyson*. Nilgiri Hills, Kotagiri, *Wight K.D. 1630*, Courtallam, *Wight*. Annamally Hills, *Wight K.D. 1630*.”

LECTOTYPE (HERE DESIGNATED). — **India**. Tamil Nadu, Dindigul District, Pulneys, Kodaikanal waterfall, 09.VI.1898, *L. Bourne* 2696 (lecto-, K[K000899046 image!]; isolecto-, K[K000899045, digital image!]).

RESIDUAL SYNTYPE. — **India**. Tamil Nadu, Courtallam, s.d., *Wight K.D. 1630* (syn-, MH[MH00002273]!).

DISTRIBUTION. — India (Kerala and Tamil Nadu), endemic.

REMARKS

In the protologue of *Anaphalis bournei*, Fyson (1914: 209) cited three specimens namely, “*Bourne* 2696, *Fyson*. Nilgiri Hills, Kotagiri, *Wight, K.D. 1630*, Courtallam, *Wight*. Anamally Hills, *Wight, K.D. 1630*”. We have traced three herbarium sheets in two herbaria, two at K (K000899045, K000899046) and one at MH (MH00002273). Among these, the specimen K000899046 is designated here as the lectotype of the name *A. bournei*, as the characters of the flowering twig matches well with the protologue.

Anaphalis elliptica (DC.) DC.

In the Prodromus Systematis Naturalis Regni Vegetabilis 6: 274 (De Candolle 1838). — Basionym: *Gnaphalium ellipticum* DC. in *Wight, Contributions to the Botany of India*: 21 (De Candolle 1834) (Fig. 1C).

TYPE CITATION. — “Neelgherry by *Wight cat. n. 1472*”.

LECTOTYPE (HERE DESIGNATED). — **India**. Tamil Nadu, Neelgherry, s.d., *Wight cat. n. 1472* (lecto-, K[K000898995 image!]; isolecto-, K[K000898996 image!]).

DISTRIBUTION. — India (Kerala and Tamil Nadu), endemic.

REMARKS

Gnaphalium ellipticum was originally described by De Candolle (1834) from Neelgherry, “*Wight Cat. n. 1472*” was cited in the protologue. De Candolle (1838) transferred *Gnaphalium ellipticum* to the genus *Anaphalis* DC. and named it as *Anaphalis elliptica* (DC.) DC. We have traced two herbarium sheets from K (K000898995, K000898996). Of these, the better specimen K000898995 is designated here as the lectotype of the name *G. ellipticum*.

Anaphalis lawii (Hook.f.) Gamble

In the Flora of the Presidency of Madras 2: 696 (Gamble 1921). — Basionym: *Anaphalis oblonga* DC. var. *lawii* Hook.f., *Flora of British India* 3: 283 (Hooker 1881) (Fig. 1D).

TYPE CITATION. — “Bababooden hills by Law; Mercara by Hohenacker”.

LECTOTYPE (HERE DESIGNATED). — **India**. Karnataka, Chikmagalur District, Bababooden hills (Baba Budan), s.d., *Law s.n.* (lecto-, K[K000898998 image!]; isolecto-, CAL[CAL0000016864 image!]; K[K000898997 image!]).

DISTRIBUTION. — India (Karnataka, Kerala, Maharashtra and Tamil Nadu), endemic.

REMARKS

In the protologue of *Anaphalis oblonga* var. *lawii*, J.D. Hooker (1881) cited the type information as ‘Bababooden hills by Law



FIG. 1. — A, Lectotype of *Anaphalis beddomei* Hook.f. (K000898987); B, lectotype of *Anaphalis bournei* Fyson (K000899046); C, lectotype of *Gnaphalium ellipticum* DC. (K000898995); D, lectotype of *Anaphalis oblonga* DC. var. *lawii* Hook.f. (K000898998). © The board of trustees of Royal Botanical Gardens, Kew.

and Mercara by Hohenacker'. Later Gamble (1921) elevated this variety to species rank and named it *A. lawii* (Hook.f.) Gamble. We have traced three herbarium sheets from two herbaria, two at K (K000898997, K000898998) and one at Central National Herbarium (CAL0000016864). Of these, the herbarium K000898998 holds the dissected flower parts and a line drawing of the achene by Gamble, which is designated here as the lectotype.

Anaphalis leptophylla (DC.) DC.

In *Prodromus Systematis Naturalis Regni Vegetabilis* 6: 273 (De Candolle 1838). — Basionym: *Helichrysum leptophyllum* DC. in Wight, *Contributions to the Botany of India*: 20 (De Candolle 1834) (Fig. 2A).

TYPE CITATION. — “Neelgherry, *Wight cat. n. 1467*”.

LECTOTYPE (HERE DESIGNATED). — India. Neelgherries, s.d., *Wight cat. n. 1467* (lecto-, E[E00385827 image!]; isolecto-, E[E00385828 image!]; E[E00385829 image!]; K[K000899022 image!]; K[K000899023 image!]; P[P01816371 image!]).

RESIDUAL SYNTYPE. — India. Tamil Nadu, Neelgherries (Nilgiri District), s.d., *Wight s.n.* (syn-, MH[MH00007084!]).

DISTRIBUTION. — India (Kerala and Tamil Nadu), endemic.

REMARKS

Helichrysum leptophyllum De Candolle (1834) was formally described based on the collections from Neelgherry by Wight cat. n. 1467. De Candolle (1838) transferred *Helichrysum leptophyllum* to the genus *Anaphalis* DC and named it as *Anaphalis leptophylla* (DC.) DC. Seven herbarium specimens were traced from four different herbaria, which includes three sheets from the Royal Botanic Garden Edinburgh Herbarium (E) (E00385827, E00385828, E00385829), two sheets from K (K000899022, K000899023), one sheet from the Muséum national d’Histoire naturelle, Paris (P) (P01816371) and one sheet from MH (MH00007084). Among these, the specimen E00385827 is better preserved and more complete, which is designated here as the lectotype.

Anaphalis marcescens (Wight) C.B. Clarke

In *the Compositae Indicae*: 110 (Clarke 1876). — Basionym: *Gnaphalium marcescens* Wight, *Icones Plantarum Indiae Orientalis* 3: 10 (Wight 1846) (Fig. 2B).

TYPE CITATION. — “Neelgherries.”

LECTOTYPE (HERE DESIGNATED). — India. Tamil Nadu, Neelgherries (Nilgiri District), s.d., *Wight s.n.* (lecto-, MH[MH00007084!]).

RESIDUAL SYNTYPE. — India. Tamil Nadu, Neelgherries (Nilgiri District), s.d., *Wight s.n.* (syn-, K[K000899039 image!]).

DISTRIBUTION. — India (Kerala and Tamil Nadu); Sri Lanka and China

REMARKS

Gnaphalium marcescens was originally described by Wight (1846) from Neelgherries. Later Clarke (1876) in his book

‘Compositae Indicae’ transferred *G. marcescens* to the genus *Anaphalis* DC. and named it as *A. marcescens* (Wight) C.B. Clarke. We have traced two specimens from two herbaria, one at MH (MH00007084) and one at K (K000899039). Of these, the sheet with barcode MH00007084 matches well with the illustration of the protologue by Wight. Hence it is designated here as the lectotype for the name *G. marcescens*.

Anaphalis meeboldii W.W. Sm.

Records of the Botanical Survey of India 4: 284 (Smith 1911) (Fig. 2C).

TYPE CITATION. — “Travancore by *A. Meebold 13326*”.

LECTOTYPE (HERE DESIGNATED). — India. Kerala, Travancore, Devicolam, 7000 feet (2133.6 m), X.1910, *A. Meebold 13326* (lecto-, CAL[CAL0000016862 image!]; isolecto-, CAL[CAL0000016861 image!]; K[K000852213 image!]).

DISTRIBUTION. — India (Kerala and Tamil Nadu), Endemic.

REMARKS

Smith (1911) described *A. meeboldii* based on the specimens collected from Travancore, Devicolam by *A. Meebold 13326*. We have traced three specimens from two herbaria, two at CAL (CAL0000016861, CAL0000016862) and one at K (K000852213). The CAL specimen with barcode CAL0000016862 is designated here as the lectotype of the name *A. meeboldii*.

Anaphalis neelgherryana (DC.) DC.

In *the Prodromus Systematis Naturalis Regni Vegetabilis* 6: 272 (De Candolle 1838). — Basionym: *Gnaphalium neelgherryanum* DC. in Wight, *Contributions to the Botany of India*: 21 (De Candolle 1834) (Fig. 2D).

TYPE CITATION. — “Neelgherry, 7000 feet, *Wight cat. n. 1473*”.

LECTOTYPE (HERE DESIGNATED). — India. Neelgherries, s.d., *Wight cat. n. 1473* (lecto-, E[E00385830 image!]; isolecto-, E[E00385831 image!]; K[K000899041 image, K000899042 image!]; P[P01816369 image!]).

DISTRIBUTION. — India (Kerala and Tamil Nadu), endemic.

REMARKS

In the protologue of *Gnaphalium neelgherryanum*, De Candolle (1834) mentioned the type as ‘Neelgherry, 7000 feet, by Wight cat. n. 1473’. De Candolle (1838) transferred *Gnaphalium neelgherryanum* to the genus *Anaphalis* DC. and named it as *Anaphalis neelgherryana* (DC.) DC. Five specimens are traced from different herbaria, two at E (E00385830, E00385831), two at K (K000899041, K000899042) and one at P (P01816369). Among these, the specimen E00385830 is better preserved and more complete, hence it is designated here as the lectotype of *G. neelgherryanum*.



FIG. 2. — **A**, Isolectotype of *Helichrysum leptophyllum* DC. (K000899022); **B**, lectotype of *Gnaphalium marcescens* Wight (MH00007084), © Madras Herbarium, Coimbatore; **C**, lectotype of *Anaphalis meeboldii* W.W.Sm. (CAL0000016862), © Central National Herbarium, Howrah; **D**, isolectotype of *Gnaphalium neelgheryanum* DC. (K000899041); **A, D**, © The board of trustees of Royal Botanical Gardens, Kew.

Anaphalis oblonga DC.

In the Prodromus Systematis Naturalis Regni Vegetabilis 6: 274 (De Candolle 1838) (Fig. 3A).

TYPE CITATION. — “Neelgerry Indiae Orient. by *Leschenault*”.

LECTOTYPE (HERE DESIGNATED). — **India**. Tamil Nadu, Neelgerry, s.d., *Leschenault* 297 (lecto-, P[P01816380 image!]; isolecto-, G[G00322867 image!]; P[P01816381 image!]).

RESIDUAL SYNTYPE. — **India**. Tamil Nadu, Neilgherries, s.d., *Leschenault s.n.* (syn-, P[P01816382 image!]).

DISTRIBUTION. — India (Kerala and Tamil Nadu), endemic.

REMARKS

De Candolle (1838) cited the specimens collected from Neelgerry by Leschenault in the protologue while describing. We have traced four specimens, three at P (P01816380, P01816381, P01816382) and one at De Candolle Herbarium (G00322867). Of these, the specimen P01816380 which is better preserved is designated here as the lectotype of *A. oblonga*.

Anaphalis subdecurrens (DC.) Gamble

In Flora of the Presidency of Madras 2: 695 (Gamble 1921). — Basionym: *Gnaphalium subdecurrens* DC., in Wight, *Contributions to the Botany of India*: 21 (De Candolle 1834) (Fig. 3B).

TYPE CITATION. — “In montibus Dindygul, *Wight cat. n. 1469*”.

LECTOTYPE (HERE DESIGNATED). — **India**. Tamil Nadu, Dindygul hills, s.d., *Wight cat. n. 1469* (lecto-, E[E00528784 image!]; isolecto-, E[E00414233 image, E00414247 image!], K[K000898988 image, K000898989 image, K000898991 image!], NY[NY00169546 image!], P[P01816383 image, P01816384 image!]).

RESIDUAL SYNTYPES. — **India**. Pulneys, s.d., *Wight s.n.* (syn-, MH[MH00007088!]); s.l., s.d., *Wall. n. 2947 B*, Herb. Wightianum, (syn-, K[K001118247 image!]).

DISTRIBUTION. — India (Kerala and Tamil Nadu), endemic.

REMARKS

In the protologue of *Gnaphalium subdecurrens*, De Candolle (1834) mentioned the type as ‘In montibus Dindygul by Wight cat. n. 1469’. Gamble (1921) transferred *Gnaphalium subdecurrens* to the genus *Anaphalis* DC. and named as *A. subdecurrens* (DC.) Gamble. We have traced eleven specimens from different herbaria, three at E (E00414233, E00414247, E00528784), three at K (K000898988, K000898989, K000898991), two at P (P01816383, P01816384), one at New York Botanical Garden (NY00169546) and one at MH (MH00007088). Among these, the specimen, E00528784 which is complete and better preserved is designated here as the lectotype of the name *G. subdecurrens*.

Anaphalis travancorica W.W.Sm.

Records of the Botanical Survey of India 4: 284 (Smith 1911) (Fig. 3C).

TYPE CITATION. — “Peninsular India: Devicolam, Travancore, alt. 7000 feet, *A. Meebold* 13328; High Range, Travancore, *Bourdillon* 36”.

LECTOTYPE (HERE DESIGNATED). — **India**. Kerala, Travancore, Devicolam, 7000 feet (2133.6 m), X.1910, *A. Meebold* 13328 (lecto-, CAL[CAL0000016858 image!]; isolecto-, CAL[CAL0000016859 image!], K[K000899053 image!]).

RESIDUAL SYNTYPE. — **India**. Kerala, Travancore, High Range, 18.II.1901, *Bourdillon* 36 (syn-, CAL[CAL0000016860 image!]).

DISTRIBUTION. — India (Kerala and Tamil Nadu), endemic.

REMARKS

Smith (1911) described *Anaphalis travancorica* on the basis of specimens collected from Travancore by two authors namely, *A. Meebold* 13328 and *Bourdillon* 36. We have traced four herbarium specimens from different herbaria, three at CAL (CAL0000016858, CAL0000016859, CAL0000016860) and one at K (K000899053). Of these, the better one from CAL with barcode number CAL0000016858 is designated here as the lectotype of *A. travancorica*.

Anaphalis wightiana (DC.) DC.

In Prodromus Systematis Naturalis Regni Vegetabilis 6: 273 (De Candolle 1838). — Basionym: *Gnaphalium wightianum* DC. in Wight, *Contributions to the Botany of India*: 21 (De Candolle 1834) (Fig. 3D).

TYPE CITATION. — “In Neelgherry, *Wight cat. n. 1471*”.

LECTOTYPE (HERE DESIGNATED). — **India**. Neelgherries, s.d., *Wight* 1471 (lecto-, E[E00414229 image!]; isolecto-, K[K000899031 image!]; MH[MH00007090, MH00007091!], P[P01816403 image!]).

RESIDUAL SYNTYPES. — **India**. Nilgherry, s.d., *Wight & E. Noton* (*Wall. cat. n. 2940*) (syn-, K[K001118233 image, K001118234 image!]).

DISTRIBUTION. — India (Kerala and Tamil Nadu), endemic.

REMARKS

De Candolle in Wight (1834) while describing *Gnaphalium wightianum*, formally mentioned the gathering of Wight Cat. n. 1471, *Wall. n. 2940* in the protologue. De Candolle (1838) transferred *Gnaphalium wightianum* to the genus *Anaphalis* DC and named it as *A. wightiana* (DC.) DC. We traced seven specimens from different herbaria, three at K (K000899031, K001118233, K001118234), two at MH (MH00007090, MH00007091), one at E (E00414229) and one at P (P01816403). Of these, the specimen E00414229 is designated here as the lectotype of the name *G. wightianum*.



FIG. 3. — A, Lectotype of *Anaphalis oblonga* DC. (P01816380), © Muséum national d'Histoire naturelle, Paris; B, lectotype of *Gnaphalium subdecurrens* DC. (E00528784); C, lectotype of *Anaphalis travancorica* W.W.Sm. (CAL0000016858), © Central National Herbarium, Howrah; D, lectotype of *Gnaphalium wightianum* DC. (E00414229); B, D, © The board of trustees of Royal Botanical Garden, Edinburgh.

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