

Nomenclature and typification in the endemic genus *Codia* (Cunoniaceae) from New Caledonia

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ABSTRACT

The taxonomic history of *Codia* is described briefly. All names validly published in *Codia*, or published under other generic names but referable to *Codia*, are discussed and lectotypified where necessary. Invalidly published names are also listed. *Codia cinerascens* (Pamp.) H.C.Hopkins, comb. et stat. nov., *Codia fusca* (Schltr.) H.C.Hopkins, comb. nov., and *Codia incrassata* Pamp. var. *rufinervis* (Guillaumin) H.C.Hopkins, comb. nov., are published.

RÉSUMÉ

L'histoire taxonomique de *Codia* est récapitulée. Tous les noms valablement publiés sous *Codia*, ou publiés dans d'autres genres mais devant être rapportés à *Codia*, sont discutés et au besoin lectotypifiés. Les noms non valablement publiés sont également pris en compte. *Codia cinerascens* (Pamp.) H.C.Hopkins, comb. et stat. nov., *Codia fusca* (Schltr.) H.C.Hopkins, comb. nov., et *Codia incrassata* Pamp. var. *rufinervis* (Guillaumin) H.C.Hopkins, comb. nov., sont ici établis.

MOTS CLÉS

Cunoniaceae,
Codia,
Nouvelle-Calédonie,
nomenclature,
typification.

INTRODUCTION

Codia, with about 14 species (including some undescribed), is endemic to the large island of New Caledonia (Grande Terre) and some of the small islands immediately adjacent to it, though absent from the Loyalty Islands. The purpose of this paper is to resolve problems in nomenclature and typification prior to completion of the account of the family Cunoniaceae for *Flore de la Nouvelle-Calédonie*.

Taxonomic problems in *Codia* are of two sorts. First are those of species delimitation, which will be discussed elsewhere. Second are those concerning names, authors and types. For instance, some syntypes include material referable to more than one taxon (e.g., *C. floribunda*). Some varieties, now elevated to specific rank, have been recognised previously under more than one specific epithet (e.g., “var. *cinerascens*”). Some names have been misapplied in herbaria and/or literature because of lack of access to types and few published illustrations (e.g.,

C. arborea, *C. montana*). Some invalid names have been used sporadically in the literature. Confusion with *Pancheria*, to which *Codia* is superficially similar as both have flowers in capitula, has led to a few species being misplaced.

Many names in *Codia* are based on VIEILLARD specimens and the problems associated with these are well known. The numbers on his specimens are usually equivalent to a species number rather than referring to a single gathering, and so material under one number may have come from more than one locality (Wagap, Balard, Gatope, Kanala, etc., usually handwritten on the label), or may have been collected during different periods (either 1855-1860 or 1861-1867, usually printed on the label); even with a single locality and date, material may have come from more than one plant and is occasionally a mixture of more than one species. Lectotypification is especially important to fix the use of names based on these collections.

The paper is in several parts. First the taxonomic history of the genus is described briefly, then generic names are discussed, followed by sectional ones. Next all names validly and effectively published in *Codia*, or considered referable to *Codia*, are listed. Information from the protologue about the type(s) is given in quotation marks and a lectotype designated where necessary. Digital images of types are being collected and will be available on CD from the author and on the web in due course. Invalid names are in a separate list. Finally an index to all names indicates their status and synonymy. Note that literature references only discussed immediately after their citation accompanying a Latin name are not repeated in the references at the end.

TAXONOMIC HISTORY

The genus was discovered and described by Johann Reinhold FORSTER and his son Johann Georg Adam FORSTER, who visited New Caledonia in 1774 as naturalists on Captain James COOK's second voyage of discovery in the Pacific. COOK was the first European to "discover" New Caledonia.

Because the genus is endemic to New Caledonia, few botanists have worked on it and

for many years after the original generic description, taxonomic works often just repeated the information given by the FORSTERS and mentioned a single species, *C. montana*. An exception to this was LABILLARDIÈRE (1824) who published a detailed description and illustration of *C. montana* (Fig. 1) based on his own material. In the second half of the 19th century, BRONGNIART & GRIS (1862) described four new species (*C. ferruginea*, *C. floribunda*, *C. obcordata* and *C. spatulata*), based largely on the collections of VIEILLARD. Some 40 years later, PAMPANINI (1904, 1905) added four more names (*C. albicans*, *C. albicans* var. *cinerascens*, *C. incrassata*, *C. microcephala*), and SCHLECHTER described *C. nitida* and *Pancheria fusca* (actually a *Codia*) in 1906. The most recent treatment was by GUILLAUMIN (1941, 1948), who initially recognised 10 species, adding *C. microphylla* in 1943.

Both VIEILLARD and BRONGNIART wrote names for proposed new taxa on herbarium specimens. Some of VIEILLARD's names were published by BRONGNIART & GRIS, PAMPANINI and GUILLAUMIN. Other names have been published invalidly, especially in works by GUILLAUMIN (1911a, b).

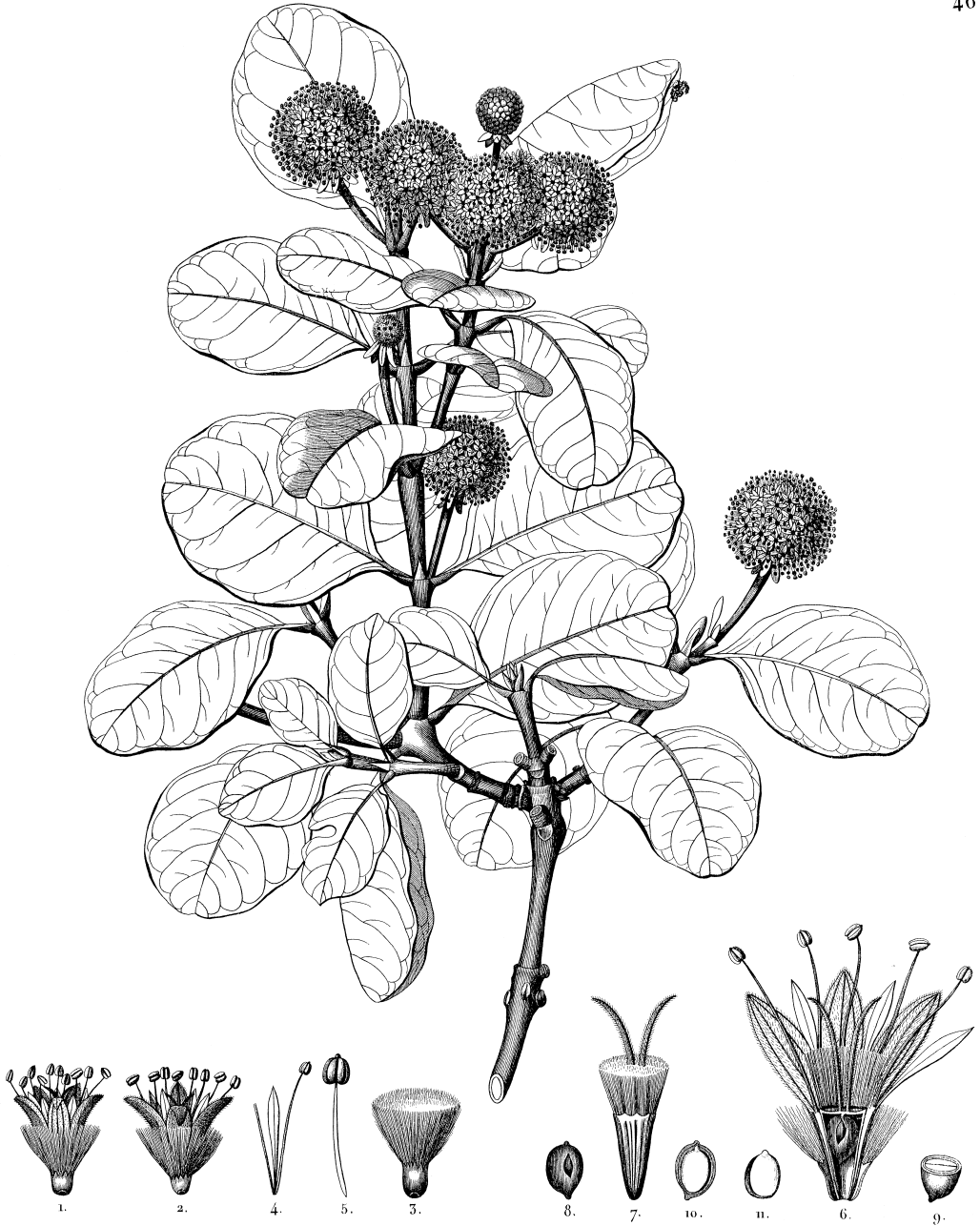
It is remarkable how many of the species recognised now are based on the early collections of VIEILLARD. Other significant collectors from the same period include BALANSA, DEPLANCHE and PANCHER. Among the relatively recent collections, those by GUILLAUMIN, BAUMANN and HÜRLIMANN in 1951 are sometimes poorly pressed and some are sterile, but they are important because they frequently represent several individuals in the same population or are from localities close to one another, thus giving a picture of local variation. The largest number of collections is by MACKEE, who collected more than 160 numbers of *Codia*.

GENERIC NAMES

CODIA J.R.Forst. & G.Forst.

Char. Gen. Pl.: 59, tab. 30 (1775).
Pfeifferago Kuntze, Revis. Gen. Pl. 1: 227 (1891).

TYPE. — *Codia montana* J.R.Forst. & G.Forst.



Therpin del. et lit.

CODIA montana.

FIG. 1. — **Codia montana** J.R.Forst. & G.Forst. Reproduced from LABILLARDIÈRE (1824).

The first edition of the FORSTERS' book, with only two copies known, was published on 29 November 1775 (FARR *et al.* 1986; see <http://ravenel.si.edu/botany/ing/>). Numerous copies exist of the two subsequent editions from 1776 (STAFLEU & COWAN 1976), and this date has sometimes been given as that for publication of the name *Codia*.

KUNTZE (1891) published *Pfeifferago* as a nomenclatural synonym to replace *Codia*, considering the latter to be a variant of the same word as RUMPHIUS' name *Codiaeum* but referring to a different plant. Both names are derived from the Greek word "kodeia" or "kodia", meaning a head, or *Codiaeum* may perhaps be derived from "kodiho", the vernacular name for *Codiaeum variegatum* in Ternate in the Moluccas (QUATTROCCHI 2000). However, the name *Codia* is legitimate as RUMPHIUS' name was published prior to 1753 and thus cannot be considered for priority, and *Codia* is not now thought to be sufficiently similar to *Codiaeum* to be problematic. The name *Pfeifferago* commemorated the German botanist Louis Karl Georg PFEIFFER (1805-1877) (QUATTROCCHI 2000).

SECTIONAL NAMES

1. Sect. *Codia*

Sect. *Eucodia* Brongn. & Gris, Bull. Soc. bot. France 9: 76 (1862), nom. inval. (Greuter *et al.* 2000: Arts 21.3 and 32.1(b)). — "Flores petalis praediti" (*C. montana*, *C. floribunda*, *C. ferruginea*).

Guillaumin (1941) – *C. montana*, *C. albifrons*, *C. ferruginea* (note this last lacks petals); Guillaumin (1948) – as listed in 1941.

2. Sect. *Codiopsis* Brongn. & Gris

Bull. Soc. bot. France 9: 77 (1862). — "Flores apetali" (*C. spatulata*, *C. obcordata*); Guillaumin, Bull. Soc. bot. France 87: 255 (1941) as "*Cadiopsis*".

Guillaumin (1941) – *C. albicans*, *C. discolor*, *C. incrassata*, *C. nitida*, *C. arborea*, *C. spatulata*, *C. obcordata*. Guillaumin (1948) – as listed in 1941 plus *C. microphylla*.

Although BRONGNIART & GRIS (1862) divided *Codia* into two sections containing species with petals (sect. *Eucodia* = sect. *Codia*) and those without (sect. *Codiopsis*), the possession of petals appears to be variable in several species and so this character cannot be used reliably to distinguish two groups.

VALIDLY PUBLISHED NAMES

1. *Codia albicans* Vieill. ex Pamp.

Ann. Bot. Rome 2: 104 (1905). — Type (as given in protologue): "Ad montes prope Wagap [Vieillard, Herb. de la Nouvelle Calédonie, 1861-1867, n. 582] (B-B, C-I, D C)". — Lectotype (here designated): in collibus circa Wagap, 1861-1867, *Vieillard* 582 (G!; iso-, FI [photo]!, G! [date "1868", see below], K! [2 sheets], P! [4 sheets]; probable iso-, BM!, NY [image]! barcode no. NY00356073, P!; other sheets exist at L and MEL [*vide* HOOGLAND, card index]).

PAMPANINI indicated that two of the type specimens were in the Barbey-Boissier herbarium (B-B) and the de Candolle herbarium (D C) at G. However, since these collections do not refer to *Flora Orientalis* nor to either DE CANDOLLE'S *Prodromus* nor the *Monographiae Phanerogamarum*, they are now in the general herbarium at G (see <http://www.cjb.unige.ch/>). The sheet cited as C-I refers to the herbarium Centrale Italiano at FI which is also now incorporated into their general herbarium (see <http://sciweb.nybg.org/science2/IndexHerbariorum.asp>). Types of other species of *Codia* described by PAMPANINI are similarly in the general herbaria at G or FI.

The handwritten date "1868" on the sheet at G, originally from the DE CANDOLLE herbarium, is probably the date of receipt rather than the date of collection, and so it is not excluded from being an islectotype. Although the sheets at BM and P lack a date of collection, I have not found any material of *Vieillard* 582 from Wagap dated 1855-1860, and the material closely matches that on the sheets with this number and locality dated 1861-1867. Another sheet of *Vieillard* 582 at P, labelled Wagap but without a date, is *C. discolor* and sheets from Kanala (both 1865-1860 and 1861-1867) are also *C. discolor*.

2. *Codia albifrons* (Brongn. ex Schinz & Guillaumin) Baker f.

J. Linn. Soc. Bot. 45: 301 (1921); Guillaumin, Bull. Soc. bot. France 87: 254 (1941); Bull. Mus. natl Hist. nat. Paris (2) 14: 452 (1943), as “*albiflorus*”; Fl. anal. synopt. Nouvelle-Calédonie: 142 (1948), as “*albiflora*”. — Basionym: *Codia montana* J.R.Forst. & G.Forst. var. *albifrons* Brongn. ex Schinz & Guillaumin, Bull. Mus. natl Hist. nat. Paris 26: 368 (27 May 1920); Schinz & Guillaumin in Sarasin & Roux, Nova Caledonia, Bot. 1: 150 (c. Dec. 1920). — Types (as given in protologue): “Nouvelle-Calédonie, [...] hautes montagnes ferrugineuses (Pancher 188, 200), sommet des montagnes au N.E. de la baie de Prony (Balansa 191)”. — Lectotype (here designated): hautes montagnes ferrugineuses, *Pancher Mus. Néocal. 188* (P!; iso-, P!).

The name *Codia albifrons* was first written on a specimen by VIEILLARD, but was not published by him. The name *C. montana* var. *albifrons* was written on a specimen at P by BRONGNIART, but this was also not published. The epithet *albifrons* first appeared in print in May 1920, published with a Latin description by GUILLAUMIN who ascribed the name *C. montana* var. *albifrons* to “Brongn. ex Schinz & Guillaumin”. The authorship of that name should now be attributed as ascribed there (GREUTER *et al.* 2000: Art. 46.2, last sentence and example 7). Publication of *C. montana* var. *albifrons* by SCHINZ & GUILLAUMIN was in a work not received at Kew until December 1920, and it seems very probable that the date of its appearance was later than GUILLAUMIN’S May 1920 publication of the name.

In 1921, E.G. BAKER took up VIEILLARD’S original manuscript name, *C. albifrons*, ascribing it to him, apparently ignoring the fact that VIEILLARD had never published it and unaware of the publication of *C. montana* var. *albifrons* the previous year. Although BAKER did not refer to GUILLAUMIN, his ascription of the name to VIEILLARD may be taken as an indirect reference to GUILLAUMIN’S validation of the varietal name (see GREUTER *et al.* 2000: Art. 32.1). Since Proposal 269 to amend the *Code* (BRUMMITT 2004) was accepted, it is clear that VIEILLARD’S name should not appear in the author citation of *C. albifrons*.

Although GUILLAUMIN (1920) cited three numbers in the protologue, they appear to refer

to only two collections. The lectotype has three labels: one with “Herbier Pancher donné par M. Hennecart” printed on it, and the other two both have “Mus. Néocal. 188” handwritten in a corner. The larger label has “200” in another corner, while in the smaller, “200” has been crossed out. The isolectotype mentions only the number 188. The syntype, *Balansa 191*, is conspecific.

3. *Codia arborea* Brongn. ex Guillaumin

Bull. Soc. bot. France 87: 254 (1941); Ann. Inst. Bot.-Géol. colon. Marseille (2) 9: 135 (1911a), nom. nud. — Types (as given in protologue): “Sans localité (Baudouin), bassin supérieur de la Tamoa (Balansa 2851)”. — Lectotype (here designated): Bassin supérieur de la Tamoa, 11 April 1870, *Balansa 2851* (P!). = *C. spatulata*.

The BAUDOUIN collection has flowers and the BALANSA one has fruits. The latter is chosen as the lectotype because a locality is indicated.

Although this name is occasionally applied to any tree-sized, rather than shrub-sized, *Codia*, it is put here in synonymy with *C. spatulata*. While *C. spatulata* is occasionally a tree, some other tree-sized *Codia* are yet to be described.

4. *Codia cinerascens* (Pamp.) H.C.Hopkins, **comb. et stat. nov.**

Basionym: *Codia albicans* Pamp. var. *cinerascens* Pamp., Ann. Bot. Rome 2: 104 (1905). — Type (as given in protologue): “Montagnes de Ouatendé (*sic*), Gatope [Vieillard, Herb. de la Nouvelle Calédonie, 1861-1867, n. 2660] (D C)”. — Holotype: Montagnes de Ouatendé, Gatope, 1861-1867, *Vieillard 2660* (G!; iso-, BM! [no date], K!, P!).

Codia discolor (Brongn. & Gris) Guillaumin var. *cinerascens* (Pamp.) Guillaumin, Bull. Soc. bot. France 87: 255 (1941).

Codia cinerascens Vieill. ex Pamp., Ann. Bot. Rome 2: 104 (1905), nom. inval., sub syn. pro *Codia albicans* var. *cinerascens*.

This taxon is represented by at least three collections besides the type, all from Ouatendé or Mt Boulinda. It resembles both *C. albicans* and *C. discolor* in having dense indumentum on the abaxial surface of the leaves, but in dried specimens of

C. cinerascens the indumentum is yellowish pink or even orangey and detaches with age to reveal a dark chocolaty brown intervenium. The few collections of a taxon close to *C. discolor* in which this also occurs are all from the extreme south of Grande Terre and they have large, heart-shaped, usually persistent stipules, rather than the triangular to elliptic, caducous stipules of *C. cinerascens*; leaf shape also differs between these two taxa.

5. *Codia discolor* (Brongn. & Gris) Guillaumin

Bull. Soc. bot. France 87: 255 (1941). — Basionym: *Codia obcordata* Brongn. & Gris var. *discolor* Brongn. & Gris, Bull. Soc. bot. France 9: 77 (1862). — Type (as given in protologue): “in montibus (Pancher)”. — Lectotype (here designated): *Pancher s.n.*, pro parte (P! [excluding part on left hand side]).

Five sheets at P collected by PANCHER lack a number and belong to this taxon. The label of one has both “*Codia obcordata* Brongn. var. *discolor* Brongn.” and “*Codia discolor* Guillaumin” in GUILLAUMIN’s hand. However, the material appears to come from two different plants though both belong to the same species. The smaller piece on the right hand side is chosen here as the lectotype. Of the remaining sheets of *Pancher s.n.* at P, two have “*Codia discolor*” in GUILLAUMIN’s hand but they have much larger leaves and are unlikely to be from the same plant as the lectotype. The other two sheets have nothing written by GUILLAUMIN on the label. These are syntypes.

Prior to 1941, specimens now identified as *C. discolor* had often been known as *Codia floribunda* (GUILLAUMIN 1941: 254), but as lectotypified here, that name belongs in the synonymy of *C. montana*.

6. *Codia ferruginea* Brongn. & Gris

Bull. Soc. bot. France 9: 77 (1862).
Pfeifferago ferruginea (Brongn. & Gris) Kuntze, Revis. Gen. Pl. 1: 227 (1891).

Type (as given in protologue): “in montibus Novae Caledoniae, ad Kanala (Vieillard, no. 584)”. — Lectotype (here designated): Kanala, 1855-60, *Vieillard 584* (P!; iso-, P! [2 sheets]; possible iso-, BM! [no date]).

BRONGNIART & GRIS did not specify a date of collection but as they published their name in 1862, the type material must have been collected during VIEILLARD’s first tour of duty in New Caledonia in 1855-1860. Thus sheets of *Vieillard 584* at K and P with this locality and the date 1861-1867 are excluded from being part of the lectotype. Another sheet exists at A (*vide* HOOGLAND, card index) but the locality and date are unknown to me.

7. *Codia floribunda* Brongn. & Gris

Bull. Soc. bot. France 9: 77 (1862).
Pfeifferago floribunda (Brongn. & Gris) Kuntze, Revis. Gen. Pl. 1: 227 (1891).

Type (as given in protologue): “circa Balade (Vieillard, no. 592)”. — Lectotype (here designated): montagnes de Balade, 1855-1860, *Vieillard 592* (P!).

GUILLAUMIN (1941) stated that the type of *C. floribunda* (*Vieillard 592*, Balade) is the same species as that of *C. montana*, although most of the material identified as the latter in the herbarium at P belonged to a separate taxon which he named *C. discolor*. The two sheets at P labelled *Vieillard 592* from Balade belong to different taxa; the lectotype has thick peduncles and leaves rounded at the base, and is conspecific with the type of *C. montana*. The second sheet, bearing a label from Herb. Caen, is *C. spatulata* and is thus excluded from being an isolectotype. *Vieillard 592* from Balade, collected 1861-1867, at P, is *C. montana*. Other sheets of *Vieillard 592* at P and elsewhere give the localities Kanala, Wagap and Gatope; some are *C. montana* and others are *C. spatulata*.

8. *Codia fusca* (Schltr.) H.C.Hopkins, comb. nov.

Basionym: *Pancheria fusca* Schltr., Bot. Jahrb. Syst. 39: 127 (1906). — Type (as given in protologue): “Sud-Bezirk: auf den Abhängen der Berge am Ngoye, ca. 400 m üü. M.-n. 15363, [...] November 1902”. — Holotype: Ngoye, 18 Nov. 1902, *Schlechter 15363* (B [photo]! barcode no. B 10 0068765).

The leaves of this collection are in whorls of three as in *C. albifrons* and specimens close to *C. albicans*

from Kopeto-Paéoua-Boulinda in the west and Combou, which is near Ngoye, in the southeast. The reddish pubescence on the young leaves is also reminiscent of some collections of *C. albicans*. The status of this taxon has yet to be decided.

Although duplicates of many collections of New Caledonian Cunoniaceae made by SCHLECHTER were widely distributed, no isotypes of *C. fusca* have yet been located.

9. *Codia incrassata* Pamp.

Ann. Bot. Rome 2: 105, tab. 7 (1905). — Type (as given in protologue): “Pouébo [Deplanche, Herb. de la Nouvelle Calédonie, 1861-1867, n. 588 (Vieillard)] - (B-B, D C)”. — Lectotype (here designated): Pouébo, 1861-67, *Vieillard 588* (G!; iso-, G!, K!, P! [2 sheets]).

Vieillard 588 from Yaté (1855-1860), a separate collection with the same number, is a syntype of *C. obcordata*.

10. *Codia incrassata* Pamp. var. **major** Baker f.

J. Linn. Soc. Bot. 45: 301 (1921). — Type (as given in protologue): “Tonine (far side of); [...] 2500 ft [Compton] 1982”. — Holotype: Tonine, 3 Oct. 1914, *Compton 1982* (BM! barcode no. 000600398). = *C. incrassata*.

BAKER considered that his plant differed from the typical variety of *C. incrassata* by having larger leaves, larger capitula and narrower sepals. In fact it falls well within the range for the nominate variety of this species.

11. *Codia incrassata* Pamp. var. **rufinervis** (Guillaumin) H.C.Hopkins, **comb. nov.**

Basionym: *Codia discolor* (Brongn. & Gris) Guillaumin var. *rufinervis* Vieill. ex Guillaumin, Bull. Mus. natl Hist. nat. Paris (2) 14: 452 (1943). — Type (as given in protologue): “Pic de Pouébo, (Vieillard 2661)”. — Lectotype (here designated): Pic de Pouébo, 1861-67, *Vieillard 2661* (P!; iso-, P! [fragment only]).

The venation and indumentum of *Vieillard 2661* resemble *C. incrassata* rather than *C. dis-*

color, but the leaves are not congested as in the type of *C. incrassata* (i.e. *C. incrassata* var. *incrassata*), and they are obovate with the base decurrent, rather than round with the base cordate.

Vieillard 2661, 1861-1867 from Wagap, is *C. albicans*.

12. *Codia microcephala* Pamp.

Bull. Herb. Boiss. (2) 4: 490 (1904); Ann. Bot. Rome 2: 105 (1905); Guillaumin, Ann. Inst. Bot.-Géol. colon. Marseille (2) 9: 135 (1911a), as “*microsepala*”. — Type (as given in protologue): “In Nova Caledonia (Deplanche, n. 45, sub *Pancheria* sp., typ. in Herb. Barbey-Boissier)”. — Holotype: Nouvelle Calédonie, s. dat., *Deplanche 45* (G!; iso-, K!, P!). = *C. spatulata*.

GUILLAUMIN (1941) put this name in synonymy with *C. obcordata*, and here I am putting both names in synonymy with *C. spatulata*.

13. *Codia microphylla* Vieill. ex Guillaumin

Bull. Mus. natl Hist. nat. Paris (2) 14: 452 (1943). — Types (as given in protologue): “Sommet d’Arama (Deplanche 152, 371, Vieillard 2662)”. — Lectotype (here designated): sommet d’Arama, 1861-1867, *Deplanche 152 & 371 in Vieillard 2662* (P!; iso-, P!).

Although mentioning three numbers, the protologue refers to a single collection, represented at P by two sheets both with the number *Vieillard 2662*. One sheet has a sterile fragment, a single label stating co-type in GUILLAUMIN’s hand and a small drawing in pencil of a calyx lobe, a stamen and the gynoecium. The second has two fragments, both with fruits, and four labels: one for the Institut botanique de Caen, a VIEILLARD label (Herb. de la Nouvelle-Calédonie) and two DEPLANCHE labels (one with the number 152 and the other giving both 152 and 371). The second sheet is designated as the lectotype.

14. *Codia montana* J.R.Forst. & G.Forst.

Char. Gen. Pl., ed. 1: 60, tab. 30 (1775). *Pfeifferago montana* (J.R.Forst. & G.Forst.) Kuntze, Revis. Gen. Pl. 1: 227 (1891).

Type (as given in protologue): none. — Lectotype (designated by FOSBERG *in* NICOLSON & FOSBERG 2004: 386): New Caledonia, *Forster 90* (P!; iso-, B [image]! barcode no. B-W 07618-010, BM! [3 sheets] barcode nos. 000600399, 000600400 & 000600401 [excl. fruit], GOET [image]!, K!; other sheets listed by NICOLSON & FOSBERG [2004]).

The name *C. montana* has sometimes been misapplied, both on herbarium sheets and in the literature (see GUILLAUMIN 1941). The confusion between *C. montana* and *C. spatulata* seems to date from BRONGNIART & GRIS' description of *C. floribunda* and the mixed collections of VIEILLARD.

15. *Codia nitida* Schltr.

Bot. Jahrb. Syst. 39: 130 (1906).

Types (as given in protologue): “Sud-Bezirk: längs der Bäche auf den Hügeln und Bergen am Ngoye, 50-150 m ü. M.-n. 15107; n. 15376”. — Lectotype (here designated): auf den Hügeln bei Ngoye, 50 m, 27 Nov. 1902, *Schlechter 15107* (B [photo]! barcode no. B 10 0158009; iso-, BM!, E!, G! [2 sheets], K!, P!; also W [*vide* HOOGLAND, card index]).

The other syntype, *Schlechter 15376* (auf den Bergen am Ngoye, 150 m, 18 nov. 1902; BM!, E!, K! [2 sheets], G! [2 sheets], P!, with other sheets at W and Z, *vide* HOOGLAND, card index) is conspecific.

16. *Codia obcordata* Brongn. & Gris

Bull. Soc. bot. France 9: 78 (1862).
Pfeifferago obcordata (Brongn. & Gris) Kuntze, Revis. Gen. Pl. 1: 227 (1891).

Types (as given in protologue): “ad montem Yaté (Vieillard, n. 588), ad littora maris (Deplanche, n. 382)”. — Lectotype (here designated): bords de la mer, 1861, *Deplanche 382* (P!; iso-, K!, P! [2 sheets]). = *C. spatulata*.

The other syntype, *Vieillard 588* from Yaté (1855-1860), is conspecific, but *Vieillard 588* from Pouébo (1861-1867) is the type of *C. incrasata*.

17. *Codia spatulata* Brongn. & Gris

Bull. Soc. bot. France 9: 77 (1862).
Pfeifferago spatulata (Brongn. & Gris) Kuntze, Revis. Gen. Pl. 1: 227 (1891), as “*spathulata*”.

Type (as given in protologue): “circa Balade (Vieillard, n. 589)”. — Lectotype (here designated): Balade, 1855-60, *Vieillard 589* (P!; iso-, P! [excl. Herb. Caen]).

Three sheets of *Vieillard 589* from Balade at P all give the date 1855-1860. The material on two appears to be from the same gathering and is chosen as the lectotype and isolectotype. The third sheet (Herb. Caen) is probably from a separate gathering and is excluded from being an isolectotype.

In the protologue, BRONGNIART & GRIS used the spelling *spatulata* which was altered by both KUNTZE (1891) and GUILLAUMIN (1941, 1948) to *spathulata*. STEARN (1973) gives both *spathulatus* and *spatulatus* in his vocabulary, and there is no reason to reject the original spelling (R.K. BRUMMITT pers. comm.).

GUILLAUMIN (1941, 1948) treated *C. arborea*, *C. obcordata* and *C. spatulata* as distinct, but I have been unable to find consistent differences between them. As both *obcordata* and *spatulata* were published in BRONGNIART & GRIS (1862), they have equal priority and I am using the name *C. spatulata* for this taxon.

18. *Codia tinifolia* Baker f.

J. Linn. Soc. Bot. 45: 301 (1921). — Type as given in protologue: “Tonine [...] 1200 ft. [...] 2374”. — Holotype: Tonine, 12 Dec. 1914, *Compton 2374* (BM!; iso-, P! [fragment]). = *Pancheria elliptica* Pamp., *vide* GUILLAUMIN (1941: 255) = *Pancheria vieillardii* Brongn. & Gris, *vide* J.C. BRADFORD (pers. comm. 2004).

INVALID NAMES

Many of the invalid names referable to *Codia* appeared in GUILLAUMIN's “Catalogue” (1911a, exact date of publication unknown, received at K on 19 November 1912) and some in another paper dated the same year (GUILLAUMIN 1911b, published 1 October 1911); however, priority is not at

issue here. Several of the names are invalid on two counts: they were both cited as synonyms and published without a description. Invalid names dealt with in the preceding section are not repeated.

1. *Callicoma integrifolia* Montrouz. ex Guillaumin

Ann. Inst. Bot.-Géol. colon. Marseille (2) 9: 135 (1911a), nom. inval., pro syn. sub *C. spatulata*.

A sheet at P (barcode no. P00428175), labelled "Faculté Mixte de Médecine et Pharmacie de Lyon, Herbarium du R.P. Montrouzier, Plantes de la Nouvelle-Calédonie", *Montrouzier 64*, from Île Art, is labelled "*Callicoma integrifolia* Montr., [...] = ?*Codia spatulata*" with the initials "GB". This probably refers to George Eugène Charles Beauvisage, who published on Montrouzier's plants (Stafleu & Menega 1993). The label for Herb. Mus. Paris has "*Codia spathulata* Brongn. & Gris, AG" in Guillaumin's hand. This specimen is of an undescribed species of *Codia*.

2. *Codia floribunda* Brongn. & Gris var. *elliptica* Brongn. & Gris ex Guillaumin

Ann. Inst. Bot.-Géol. colon. Marseille (2) 9: 135 (1911a), nom. inval., pro syn. sub *C. albicans*.

3. *Codia laevis* Brongn. ex Guillaumin

Ann. Inst. Bot.-Géol. colon. Marseille (2) 9: 135 (1911a), nom. nud. Specimen cited: *Pancher s.n.*; Guillaumin, Not. Syst. Paris 2: 108 (1911b), nom. nud.

Guillaumin (1911a) listed both this name and *Pancheria laevis* separately, though elsewhere (Guillaumin 1911b, 1941) he said they were synonymous, and the same as *C. nitida*, though he had not seen Pancher's material. A sheet of *Pancher s.n.* at K labelled "*Codia laevis*" is indeed *C. nitida*.

4. *Codia montana* Labill. ex D. Don

Edinburgh New Philos. J. 9: 94 (1830), nom. inval., pro syn. sub *Callicoma billardierei* D. Don.

DON (1830) mentioned the name *Codia montana* twice, once as a taxon in its own right, attributed to "Forst." (p. 95), and once as a synonym of *Callicoma billardierei* (p. 94), attributed to "Labill. MSS", indicating he had seen a specimen from LABILLARDIÈRE in LAMBERT's herbarium. While the concept of *C. montana* in LABILLARDIÈRE (1824) was conspecific with that of the FORSTERS, a collection by him at P is a mixture of *C. montana* with a small fragment of a *Pancheria*, which might account for the confusion. A LABILLARDIÈRE specimen with fruits at BM, which may be that from LAMBERT's herbarium but is not definitely so, is labelled "*Codia montana*", "*Callicoma billardierei* D. Don", and "*Pancheria billardierei*" and is indeed a *Pancheria*. *Callicoma billardierei* is the basionym of *Pancheria billardierei* (D. Don) Pamp.

5. *Codia propinqua* Vieill. ex Guillaumin var. *rufinervis* Vieill. ex Guillaumin

Bull. Mus. natl Hist. nat. Paris (2) 14: 452 (1943), nom. inval., pro syn. sub *C. discolor* var. *rufinervis*.

I am not aware that the name *Codia propinqua* has appeared in print except in combination with var. *rufinervis*, as indicated here.

6. *Codia serratifolia* Ser. ex DC.

Prod. 4: 7 (1830), nom. inval., pro syn. sub *Callicoma serratifolia* Andrews.

7. *Pancheria humilis* Brongn. & Gris ex Guillaumin var. *frutescens* Brongn. & Gris ex Guillaumin

Ann. Inst. Bot.-Géol. colon. Marseille (2) 9: 137 (1911a), nom. nud. Specimen cited: Mt Koghi, *Balansa 191*; Guillaumin, Bull. Mus. natl Hist. nat. 26: 368 (1920), nom. inval., pro syn. sub *Codia montana* var. *albifrons*.

I am not aware that the name *Pancheria humilis* has appeared in print except in combination with var. *frutescens*. *Balansa 191* (P! [4 sheets]) is a syntype of *C. albifrons*.

8. *Pancheria laevis* Vieillard ex Guillaumin

Ann. Inst. Bot.-Géol. colon. Marseille (2) 9: 137 (1911a), nom. nud. Specimens cited: *Pancher 186*, *Vieillard 2658*; Guillaumin, Not. Syst. Paris 2: 108 (1911b), nom. nud.

See *Codia laevis*. *Pancher 186* (s. loc., s. dat., P! [3 sheets]) and *Vieillard 2658* (Mt Koghi, 1861-1867, P!) are *C. nitida*.

9. *Pancheria lucida* Vieillard ex Guillaumin

Ann. Inst. Bot.-Géol. colon. Marseille (2) 9: 137 (1911a), nom. nud. Specimen cited: *Pancher s.n.*; Guillaumin, Not. Syst. Paris 2: 108 (1911b), nom. nud.

Said by GUILLAUMIN (1911b) to be *C. nitida* though he had not seen PANCHER's collection. While one PANCHER specimen at P labelled *Pancheria lucida* is *Codia nitida*, other sheets at P and K are *P. phillyreoides* Guillaumin.

INDEX OF NAMES ASSOCIATED WITH THE GENUS *CODIA*

Names of accepted species underlined; **new names** in bold; validly published synonyms in ordinary face; *invalid names and spelling variants* in italics.

Callicoma integrifolia Montrouz. ex Guillaumin, nom. inval., pro syn sub *Codia spatulata* with doubt = *Codia* sp. nov.

Codia albicans Vieill. ex Pamp.

Codia albicans var. *cinerascens* Pamp. = basionym of *Codia cinerascens*

Codia "albiflora", GUILLAUMIN (1948), "*albiflorus*", GUILLAUMIN (1943) = misspellings of *Codia albifrons*

Codia albifrons (Brongn. ex Schinz & Guillaumin) Baker f.

Codia arborea Brongn. ex Guillaumin = *Codia spatulata*, **syn. nov.**

Codia cinerascens (Pamp.) H.C.Hopkins, **comb. et stat. nov.**

Codia discolor (Brongn. & Gris) Guillaumin

Codia discolor var. *cinerascens* (Pamp.) Guillaumin = *Codia cinerascens*

Codia discolor var. *rufinervis* Vieill. ex Guillaumin = *Codia incrassata* var. *rufinervis*

Codia ferruginea Brongn. & Gris

Codia floribunda Brongn. & Gris = *Codia montana*

Codia floribunda of various authors = *Codia discolor* and *Codia spatulata*

Codia floribunda var. *elliptica* Brongn. & Gris ex Guillaumin, nom. inval., pro syn. sub *Codia albicans*

Codia fusca (Schltr.) H.C.Hopkins, **comb. nov.**

Codia incrassata Pamp.

Codia incrassata var. *major* Baker f. = *Codia incrassata*

Codia incrassata var. *rufinervis* (Guillaumin) H.C.Hopkins, **comb. nov.**

Codia laevis Brongn. ex Guillaumin, nom. nud. = *Codia nitida* *fide* GUILLAUMIN (1911b), approbo.

Codia "levis", SCHINZ & GUILLAUMIN (1920: 150), misspelling of *Codia laevis*

Codia microcephala Pamp. = *Codia obcordata* *fide* GUILLAUMIN (1911a) = *Codia spatulata*

Codia microphylla Vieill. ex Guillaumin

Codia "microsepala", GUILLAUMIN (1911a) = misspelling of *Codia microcephala*

Codia montana J.R.Forst. & G.Forst.

Codia montana J.R.Forst. & G.Forst. var. *albifrons* Brongn. ex Schinz & Guillaumin = basionym of *Codia albifrons*

Codia montana Labill. ex D.Don, nom. inval., pro syn. sub *Callicoma billardierei* D.Don, which is the basionym of *Pancheria billardierei* (D.Don) Pamp.

Codia nitida Schltr.

Codia obcordata Brongn. & Gris = *Codia spatulata*, **syn. nov.**

Codia obcordata var. *discolor* Brongn. & Gris = basionym of *Codia discolor*

Codia propinqua Vieill. ex Guillaumin, nom. nud., var. *rufinervis* Vieill. ex Guillaumin, nom. inval., pro syn. sub

Codia discolor var. *rufinervis* = *Codia incrassata* var. *rufinervis*

Codia serratifolia Ser. ex DC., nom. inval., pro syn. sub *Callicoma serratifolia* Andrews

Codia spatulata Brongn. & Gris

Codia "spatulata", various authors = orthographic variant of *Codia spatulata*

Codia tinifolia Baker f. = *Pancheria vieillardii* Brongn. & Gris, *vide* J.C. BRADFORD (pers. comm. 2004), **syn. nov.**

Pancheria fusca Schltr. = *Codia fusca*

Pancheria humilis Brongn. & Gris ex Guillaumin, nom. nud., var. *frutescens* Brongn. & Gris ex Guillaumin, nom. nud. = *Codia montana* var. *albifrons* = *Codia albifrons* *vide* GUILLAUMIN (1941), approbo.

Pancheria laevis Vieill. ex Guillaumin, nom. nud. = *Codia nitida* *vide* GUILLAUMIN (1911b), approbo.

Pancheria "levis", SCHINZ & GUILLAUMIN (1920) = misspelling of *Pancheria laevis*

Pancheria lucida Vieill. ex Guillaumin, nom. nud. = *Pancheria phillyreoides* Brongn. & Gris ex Guillaumin and *Codia nitida*

Pfeifferago ferruginea (Brongn. & Gris) Kuntze = *Codia ferruginea*

Pfeifferago floribunda (Brongn. & Gris) Kuntze = *Codia floribunda* = *Codia montana*

Pfeifferago montana (J.R.Forst. & G.Forst.) Kuntze = *Codia montana*

Pfeifferago obcordata (Brongn. & Gris) Kuntze = *Codia obcordata* = *Codia spatulata*

Pfeifferago spatulata (Brongn. & Gris) Kuntze, as "*spathulata*" = *Codia spatulata*

section *Eucodia* Brongn. & Gris, nom. inval. = sect. *Codia*

section *Codia*

section *Codiopsis* Brongn. & Gris

section "*Cadiopsis*", GUILLAUMIN (1941, p. 255), misspelling of *Codiopsis*

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REFERENCES

- BRONGNIART A. & GRIS A. 1862. — Notice sur les Saxifragées-Cunoniées de la Nouvelle-Calédonie. *Bull. Soc. bot. France* 9: 67-77.
- BRUMMITT R.K. 2004. — Assorted proposals to clarify the Code. *Taxon* 53: 1090-1094.
- FARR E.R., LEUSSINK J.A. & ZIJLSTRA G. (eds) 1986. — Index Nominum Genericorum Suppl. 1. *Regnum Vegetabile* 113.
- GREUTER W., MCNEILL J., BARRIE F.R., BURDET H.M., DEMOULIN V., FILGUEIRAS T.S., NICOLSON D.H., SILVA P.C., SKOG J.E., TREHANE P., TURLAND N.J. & HAWKSWORTH D.L. 2000. —

International code of botanical nomenclature (Saint Louis Code) adopted by the Sixteenth International Botanical Congress, St Louis, Missouri, July-August 1999. *Regnum Vegetabile* 138: 1-474.

- GUILLAUMIN A. 1911a. — Catalogue des plantes phanérogames de la Nouvelle-Calédonie et dépendances. *Ann. Inst. Bot-Géol. colon. Marseille* (2) 9: 77-290.
- GUILLAUMIN A. 1911b. — Remarques sur la synonymie de quelques plantes néo-calédoniennes V. *Not. Syst. Paris* 2: 105-109.
- GUILLAUMIN A. 1920. — Contribution à la flore de la Nouvelle-Calédonie XXXII. Plantes de collecteurs divers (suite). *Bull. Mus. natl Hist. nat.* 26: 361-368.
- GUILLAUMIN A. 1941. — Matériaux pour la flore de la Nouvelle-Calédonie. LVI. Révision des Cunoniacées. *Bull. Soc. bot. France* 87: 242-256 (dated 1940, published 1941).
- GUILLAUMIN A. 1943. — Contribution à la flore de la Nouvelle-Calédonie LXXX. — Plantes de collecteurs divers (suite). *Bull. Mus. natl Hist. nat.* (2) 14: 451-456 (dated 1942, published 1943).
- GUILLAUMIN A. 1948. — *Flore analytique et synoptique de la Nouvelle-Calédonie. Phanérogames*. Office de la Recherche scientifique coloniale, Paris.
- KUNTZE O. 1891. — *Revisio Generum Plantarum* vol. 1. C. Klincksieck, Paris.
- LABILLARDIÈRE J.J.H. DE 1824. — *Sertum austro-caledonicum*, part 1. Dominæ Huzard, Paris.
- NICOLSON D.H. & FOSBERG F.R. 2004. — The Forsters and the botany of the second Cook Expedition (1772-1775). 2nd ed. *Regnum Vegetabile* 139.
- PAMPANINI R. 1904. — Une Cunoniacée nouvelle de la Nouvelle-Calédonie. *Bull. Herb. Boiss.* (2) 4: 490.

- PAMPANINI R. 1905. — Le Cunoniacee degli Erbari di Firenze e di Ginevra. *Ann. Bot. Rome* 2: 43-106.
- QUATTROCCHI U. 2000. — *CRC World Dictionary of Plant Names*. Vols 1-4. CRC Press, Boca Raton.
- RUMPHIUS G.E. 1741-1755. — *Herbarium amboinense*. F. Halma, Amsterdam, 7 parts.
- SCHLECHTER R. 1906. — Beiträge zur Kenntnis der Flora von Neu-Kaledonien. *Bot. Jahrb. Syst.* 39 (1): 1-274.
- SCHINZ H. & GUILLAUMIN A. in SARASIN F. & ROUX J. 1920. — *Nova Caledonia. B. Botanik*. vol. 1, part 2. Kreidel, Berlin.
- STAFLEU F.A. & COWAN R.S. 1976. — Taxonomic literature, 2nd ed. Vol. 1 A-G. *Regnum Vegetabile* 94.
- STAFLEU F.A. & MENNEGA E.A. 1993. — Taxonomic literature, Suppl. II: Be-Bo. *Regnum Vegetabile* 130.
- STEARNS W.T. 1973. — *Botanical Latin*, 2nd ed. David & Charles, Newton Abbot.

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