

# Resolution of the taxonomic identity of *Cryptocarya daruensis* Kosterm. and lectotypification of *C. ilocana* S.Vidal (Lauraceae)

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## Summary

Forster, P.I. (2024). Resolution of the taxonomic identity of *Cryptocarya daruensis* Kosterm. and lectotypification of *C. ilocana* S.Vidal (Lauraceae). *Austrobaileya* **14**: 36–39. *Cryptocarya daruensis* Kosterm. (as '*darusensis*'), described from southern Papua New Guinea and known only from the type collection, is reduced to synonymy under the widespread *C. exfoliata* C.K.Allen. A lectotype is chosen for the name *C. ilocana* S.Vidal described from the Philippines.

Key Words: Lauraceae; *Cryptocarya*; *Cryptocarya daruensis*; *Cryptocarya darusensis*; *Cryptocarya exfoliata*; *Cryptocarya ilocana*; new synonymy; lectotypification; flora of Australia; flora of New Guinea; flora of Northern Territory; flora of the Philippines; flora of Queensland

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## Introduction

*Cryptocarya daruensis* Kosterm. (as '*darusensis*') was described from a fruiting specimen (*Ridsdale NGF33749 & Galore*) collected on Daru Island in the Torres Strait, Western (Fly) Province, Papua New Guinea (Kostermans 1990). The species has remained an enigma with no further collections referring to the name within herbaria. Brief descriptions in Latin and English were provided, but no suggestions of affinities (Kostermans 1990). In 1976 André Kostermans (b. 1906, d. 1994) had annotated the collection at Leiden later used as the holotype as “*Cryptocarya daruensis* Kosterm.” and “near *C. cunninghamii* [but] tomentum different”. The published spelling of the species name appears to be an error, and the holotype is accessioned at Leiden as *Cryptocarya daruensis*.

Location and subsequent examination of an isotype for *Cryptocarya daruensis* at BRI immediately raised the possibility that it was conspecific with a widespread species, namely *C. exfoliata* C.K.Allen, also typified from a collection in southern Papua New Guinea in the Western (Fly) Province (Allen 1942).

*Cryptocarya exfoliata* was first recognised to occur in both Australia and southern Papua New Guinea by Dunlop (1987), with a comprehensive account provided by Hyland (1989) in his review of the Australian laurels.

*Cryptocarya exfoliata* was referred to the synonymy of *C. ilocana* S.Vidal (based on a type collection from the Philippines), and its presence in Australia was noted by Kostermans (1969), based upon an apparently unnumbered collection by S.F. Kajewski. Hyland (1989) did not refer to the synonymy proposed by Kostermans (1969) and perhaps the only likely candidate for the Kajewski collection (based on location and habitat) is his 1399 from the Daintree River (identified by Hyland as *C. triplinervis* var. *riparia* B.Hyland).

The type collection of *Cryptocarya ilocana* (Vidal 1684) is represented in numerous herbaria and comprises a fruiting specimen. All of the material is strongly triplinerved and some duplicates were determined as *C. triplinervis* R.Br. by Kostermans in the 1960s; however, Hyland (1989) and Le Cussan & Hyland (2007) considered *C. triplinervis*

to be endemic to Australia. The fruits on the Vidal collection are ellipsoidal. Hyland (1989) and Le Cussan & Hyland (2007) describe the fruit of *C. exfoliata* as globular to ellipsoidal (though they are most commonly globular), and of *C. triplinervis* as globular to ellipsoidal. Smith (1978) “was somewhat startled to note that Kostermans in 1967 had annotated a few Fijian specimens at K as representing the Philippine *C. ilocana* Vidal”. In the absence of a monograph of *Cryptocarya*, it is difficult to evaluate Kostermans’ identification decisions based on these limited collections; however, based on examination of *Vidal 1684* there appears to be a closer relationship with *C. triplinervis* rather than *C. exfoliata*. The name *C. ilocana* requires lectotypification due to the existence of multiple type elements (see below).

The numerous collections in Australian herbaria that are now identified as *Cryptocarya exfoliata* had usually been initially identified as *C. cunninghamii* Meisn. or *C. triplinervis* prior to the revision by Hyland (1989). An initial molecular analysis of Australian *Cryptocarya* R.Br. species and their relationships did little to reveal the inferred phylogeny of *C. exfoliata* (based on a single sample), as it was placed in a largely unresolved polytomy with samples identified as *C. bidwillii* Meisn., *C. clarksoniana* B.Hyland and *C. sclerophylla* B.Hyland (van der Merwe *et al.* 2016). *Cryptocarya daruensis* is newly reduced to synonymy under *C. exfoliata* in this note and the *status quo* of the earlier name is maintained in the absence of a modern monograph that resolves regional approaches to naming in the genus.

### Materials and methods

Field observations and collections of *Cryptocarya exfoliata* were made in far northern Queensland, together with examination of herbarium collections at BRI, and perusal of online images (indicated \* in specimen citations) via the JSTOR Global Plants Online portal. Herbarium locations for unseen distributed duplicates of cited collections are listed in alphabetical order after those seen and separated from the former by a semi-colon (e.g. BRI; DNA, MEL).

### Taxonomy

***Cryptocarya exfoliata*** C.K.Allen, *J. Arnold Arbor.* 23(2): 135 (1942). **Type:** Papua New Guinea: WESTERN (FLY) PROVINCE: Middle Fly River, Lake Daviumbu, September 1936, *L.J. Brass 7655* (holo: A 00041398\*; iso: BM 000799346\*, BO 1267416\*, BRI [AQ0340510], L 0036287\*).

*Cryptocarya daruensis* Kosterm., *Bot. Helv.* 100(1): 33 (1990), as ‘darusensis’; **synon. nov.** **Type:** Papua New Guinea: WESTERN (FLY) PROVINCE: Daru Island, 20 August 1967, *C.E. Ridsdale NGF33749 & M. Galore* (holo: L 0036100\*; iso: A 02538511\*, BRI [AQ0164477]; BO, CANB, K).

[*Cryptocarya ilocana* auct. non S.Vidal.: Kostermans (1969: 469), *pro parte*]

**Illustrations:** Cooper & Cooper (2004: 249); Zich *et al.* (2020).

Comprehensive botanical descriptions of this species can be found in Hyland (1989) and Le Cussan & Hyland (2007).

**Additional selected specimens examined: Papua New Guinea.** WESTERN (FLY) PROVINCE: Lower Fly River, east bank opposite Sturt Island, Oct 1936, *Brass 8175* (A\*, BRI); Wando, May 1993, *Waterhouse BMW2896* (BRI; LAE). **Australia. Northern Territory.** Between the East Alligator River and Oenpelli, Arnhem Land, Jun 1974, *Pullen 9460* (BRI; CANB); East Alligator River, *Dunlop 7618* (BRI; CANB, CNS, DNA, NSW); 6 km S of Mt Gilruth, Arnhem Land, Mar 1984, *Jones 1535* (BRI; AD, CANB, DNA, K, L, MEL, NSW); Deaf Adder Gorge, Apr 1980, *Dunlop 5469* (BRI; CANB, CNS, DNA); NW Arnhem Land, Gumardin Falls, Nov 1987, *Russell-Smith 3903 & Lucas* (BRI; DNA). **Queensland.** COOK DISTRICT: Dauan Island, Torres Strait, Jun 2003, *Wannan 3155 & Buosi* (BRI; NSW); Gebar Island, Oct 2017, *Fell GB72 et al.* (BRI); Lockerbie, 10 miles [16.6 km] WSW of Somerset, Apr 1948, *Brass 18391* (BRI); Heathlands, QPWS Ranger base pumphouse, tributary of Bertie Creek, Jun 2008, *Forster PIF33723* (BRI, MEL, NSW); 1 km NW of Bolt Head, Temple Bay, Jul 1991, *Tucker s.n.* (BRI [AQ508349], CNS, DNA); Stone Crossing on Wenlock River, Oct 1983, *Gunnness AG1829* (BRI); Wattle Hills, Pascoe River, Sep 2002, *Sankowsky 1842 & Sankowsky* (BRI); Round Mountain, Embley Range, Silver Plains, Jun 1998, *Forster PIF23094 et al.* (BRI, CNS, DNA, MEL); Upper Massey Creek, c. 15 miles [c. 24 km] S of ENE of Coen, Oct 1962, *Smith 11708* (BRI); T.R. 14 Massy, Nov 1980, *Hyland 10870* (BRI; CNS); Jane Table Hill, 46.5 km N of Lakefield homestead, Lakefield National Park, Mar 1993, *Fell DGF2948 & Stanton* (BRI); King’s Plains Station, Sackley Hill, Jan 2014, *McDonald KRM15145 &*

Roberts (BRI); White Cliff Point, Cook Highway, Dec 1984, *Gray 3828* (BRI; CNS); S of Buddabadoo Creek, Yarrabah, Oct 2013, *Jago 7644 & Stanton* (BRI).

**Distribution and habitat:** *Cryptocarya exfoliata* is widespread in drier rainforest, gallery and back mangal, closed forest communities (variously beach scrub, riparian scrub, semi-evergreen microphyll vine thickets, semi-evergreen notophyll to mesophyll vineforests) on a variety of substrates (latosols, sands, usually derived from granites). The species is known from southern Papua New Guinea in the Western (Fly) Province, and in northern Australia from the top end of the Northern Territory and in Queensland from the Torres Strait south to near Cairns and Yarrabah in the Wet Tropics. It is the most commonly collected species of *Cryptocarya* from the Torres Strait islands.

**Notes:** Allen (1942) noted that her new species “falls into the triplinerviate group, although some individual leaves are penninerved”. Hyland (1989) observed that *Cryptocarya exfoliata* exhibited leaf laminae that were “usually triplinerved but sometimes penninerved even on the same specimen”. Cooper & Cooper (2004) stated leaves in the species were “3-veined or [had] 2–9 pairs lateral veins”, with illustration of a triplinerved leaf lamina. The type collection of *C. daruensis* is variable in this character, with leaves of the BRI isotype nearly entirely penninerved, whereas the A isotype shows both triplinerved and penninerved laminae. This character is indeed quite variable when a wide range of collections are examined, with triplinerved laminae being more commonly observed; however, this variation is not mentioned or described in online identification tools where mainly triplinerved laminae are illustrated (Zich *et al.* 2020; ALA 2024).

**Cryptocarya ilocana** S.Vidal, *Revis. Pl. Vasc. Filip.* 223 (1886). **Type citation:** “1684 Pr. Ilocos Norte (N. v. *Camigay*).” **Type:** [Philippines.] [Pr.] Ilocos Norte, *s.dat.*, [S.] *Vidal 1684* (lecto [here designated]: MA 397175\*; isolecto: A 00041445\*, K 000768477\*, L 0036284\*, MA 395818\* [2 sheets]).

**Typification:** The history of Sebastián Vidal and his plant collections from the Philippines has been reviewed by Calabrese & Velayos (2009) who noted that the first set of the collections at Manila (PNH) were destroyed by fire in 1897 and that the second set is in Madrid (MA). Following study of the MA collections by Quisumbing in the 1950s, duplicates were distributed to other herbaria such as A, K and L; these specimens are usually accompanied by an extra label acknowledging this. While there is a clear citation of a type collection for *Cryptocarya ilocana* (Vidal 1886), there is no direct indication of an herbarium of deposition, although this would have been PNH at the time. Kostermans (1969: 469) cited “*typus: Vidal 1684 (K, L)*” but did not thus effect lectotypification. Quisumbing subsequently annotated the L sheet as a “TYP. DUPL.” and other sheets are variously labelled as “TYPE” or “ISOTYPE” but since these designations are unpublished they have no standing. There are two accessions of *Vidal 1684* at MA; the better specimen with abundant fruit is selected as lectotype for the name, with the other specimens in MA and elsewhere being isolectotypes. The word *Camigay* in the protologue refers to a local name for the species (*nom. vern.*) and is not further locality data.

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