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RESEARCH ARTICLE

## Lectotypification of the name *Brachyscome neocaledonica* = *Pytinicarpa neocaledonica* (Asteraceae: Astereae)

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**Abstract.** The lectotype (P00537796) is designated for the name *Brachyscome neocaledonica* Guill. (now accepted as *Pytinicarpa neocaledonica* (Guill.) G.L.Nesom), the type species of the genus *Pytinicarpa* G.L.Nesom (Asteraceae). This action proved necessary as only syntypes for that species name were cited by Guillaumin in the protologue; also, no lectotypification was provided when Nesom erected the genus *Pytinicarpa*. Some syntypes from the gatherings cited in the protologue of *Brachyscome neocaledonica* represent a related species *Pytinicarpa sarasinii* (Däniker) G.L.Nesom (*Brachyscome sarasinii* Däniker) or mixed collections. Because of that the lectotype designation is important for maintaining the nomenclatural stability and application of names in the genus *Pytinicarpa*.

**Keywords:** Asteraceae, Astereae, *Brachyscome*, *Pytinicarpa*, *Brachyscome neocaledonica*, *Pytinicarpa neocaledonica*, lectotypification, New Caledonia

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### Introduction

The taxonomy of the genera within the subtribe *Lagenophorinae* G.L.Nesom (Nesom, Robinson, 2007) has been studied intensively in recent years (Wang, Bean, 2016; Bean, Wang, 2017; Wang, Bean, 2019; de Lange et al., 2020; Wang, Bean, 2020; Lannuzel et al., 2021; de Lange, Wang, 2021). The genus *Pytinicarpa* G.L.Nesom (1994: 138) ["...from "pytine" (Greek, referring to flask covered with plaited work) and "carpos" (Greek, fruit)"; Nesom, 1994: 137], with its type species *Pytinicarpa neocaledonica* (Guill.) G.L.Nesom, was established in 1994. The species-rank combination was based on *Brachyscome neocaledonica* Guill. which was named by Guillaumin (1937). At the time when he named the species, Guillaumin listed three collections citing three collectors and their associated numbers, namely: two

specimens from Neue collected by Pancher in 1870 and labelled with the same collecting number '94' (so treated as one gathering), one made by Deplanche between 1861–1867 with a collecting number '425', and the third from Gatope made by Vieillard also between 1861–1867 and given a collecting number '2823'.

However, in his description of *Brachyscome neocaledonica*, Guillaumin (1937) did not specify its type (holotype) and nor did Nesom (1994) when he established *Pytinicarpa*, and so lectotypification of the name *B. neocaledonica* is still necessary.

To rectify this problem in this paper, we discuss the typification of *Brachyscome neocaledonica* and then designate a lectotype to ensure stability of the application of that name. Herbarium acronyms are cited following *Index Herbariorum* (Thiers, 2008–onward).

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Fig. 1. The two sheets (Viellard 2823) of *Brachyscome neocaledonica* at AA (left) and GH (right) examined by Nesom (1994). Both sheets are now isoelectotypes



## Typification of *Pytinicarpa* and original specimens of *Brachyscome neocaledonica*

*Pytinicarpa* G.L.Nesom is a genus endemic to southwestern Pacific Islands. It includes three currently recognised species, two from New Caledonia and one from Fiji (Nesom, 1994, 2001; POWO, 2022). When Nesom (1994) established the genus, he included two New Caledonia species, *Pytinicarpa neocaledonica* (Guill.) G.L.Nesom (*Brachyscome neocaledonica* Guill.) and *Pytinicarpa sarasinii* (Däniker) G.L.Nesom (*Brachyscome sarasinii* Däniker). The former was indicated as the type species of the genus. When describing the new genus, Nesom (1994) mentioned only syntypes by providing full and direct citations of the three collections that Guillaumin (1937) had listed in the protologue as *de facto* syntypes of his *Brachyscome neocaledonica*: "Néhoué (*Pancher 94*, *Deplanche 425*), Gatope (*Vieillard 2823*)". Nesom (1994: 138) also noted: "I have studied 2 sheets of *Vieillard 2823* (AA! GH!), which include a total of 5 plants"; however, that statement does not constitute effective lectotypification.

After careful study, we discovered that two of these three original collections (gatherings, see Art. 8.2 [and Art. 8.2 footnote] of the *ICN*: Turland et al., 2018) are mixed, i.e., they include both *Pytinicarpa neocaledonica* and *P. sarasinii* (Table 1).

Table 1 shows the detailed information of the three *Brachyscome neocaledonica* syntypes and their current identification. There are at least five currently known sheets (specimens) of *Vieillard 2823* (AA!, GH!, and three at P!), which include a total of 11 individual plants or plant fragments. Nesom (1994) studied two sheets (AA, GH) comprising the five plants mentioned in Guillaumin's protologue (Fig. 1). Nesom correctly

illustrated these, but cited the wrong figure numbers in his publication. The three sheets from P that were not examined by Nesom comprise one plant (P00537796!), two plants (P00537798!), and three plants (P00537797!) and are all *Brachyscome neocaledonica* (= *Pytinicarpa neocaledonica*).

Of the other two syntypes that Nesom (1994) did not view, *Pancher 94* is a single known sheet (P00537795!) with three plants, all are *Pytinicarpa sarasinii*; *Deplanche 425* has four sheets (K! and three at P!) with a total of 13 plants. Three sheets (K000890083!, P00537799!, P005378001!) are *P. sarasinii*. The sheet (P00537801!) with five plants is a mixed collection with four of the five plants *P. neocaledonica* and the much broader leaved plant is possibly *P. sarasinii*.

Our examination of the syntypes has revealed that the five collections by Vieillard with a collecting number '2823' from Gatope are the closest match to the characters specified for *Brachyscome neocaledonica* in the protologue for that species (Guillaumin, 1937). So, for this reason it is from these that we have selected a lectotype suitable for maintaining the taxonomic stability of names in the genus *Pytinicarpa* and its type species (Table 1).

### Lectotypification of *Brachyscome neocaledonica* ≡ *Pytinicarpa neocaledonica*

*Pytinicarpa neocaledonica* (Guill.) G.L.Nesom, *Phytologia* 76: 138 (1994).

≡ *Brachyscome neocaledonica* Guill., *Bull. Soc. Bot. France* 84: 61 (1937).

**Type:** Gatope, 1861–1867, Vieillard 2823 (**Lectotype, here designated:** P [P00537796], Fig. 2); **Isolectotypes:** AA [AA00097920], GH [GH00097921], Fig. 1; P [P00537797, P00537798].

Table 1. The detailed information of the type material (syntypes) of *Brachyscome neocaledonica* Guill. (now *Pytinicarpa neocaledonica* (Guill.) G.L.Nesom) and their identification according to our study

	Collecting information	Sheet No.	No. of plants	Identification	
				Original determination	Authors' determination
The three collecting numbers by Guillaumin (1937) and syntypes cited by Nesom (1994)	Pancher 94 from Neue	P00537795	3	<i>B. neocaledonica</i>	<i>P. sarasinii</i>
	Deplanche 425 from Neue	K000890083	2	<i>B. neocaledonica</i>	<i>P. sarasinii</i>
		P00537799	4	<i>B. neocaledonica</i>	<i>P. sarasinii</i>
		P00537800	2	<i>B. neocaledonica</i>	<i>P. sarasinii</i>
		P00537801	5	<i>B. neocaledonica</i>	<i>P. neocaledonica</i> (4); possibly <i>P. sarasinii</i> (1)
	Vieillard 2823 from Gatope	AA00097920	3	<i>B. neocaledonica</i>	<i>P. neocaledonica</i>
		GH00097921	2	<i>B. neocaledonica</i>	<i>P. neocaledonica</i>
		P00537796	1	<i>B. neocaledonica</i>	<i>P. neocaledonica</i>
		P00537797	3	<i>B. neocaledonica</i>	<i>P. neocaledonica</i>
		P00537798	2	<i>B. neocaledonica</i>	<i>P. neocaledonica</i>



Fig. 2. Lectotype of *Brachyscome neocaledonica* (Vieillard 2823), P00537796 (here designated)

## Typification notes

Not all collections cited by Guillaumin (1937) bear his annotations and determination signatures, i.e., three of the five sheets bear annotations by Vieillard, one each from AA (3 plants), GH (2 plants), and P (3 plants). However, the other two Vieillard sheets at P bear Guillaumin's determinations in his handwriting and with his signature, and it is from these that we have designated the lectotype.

The lectotype designated here is selected on the basis of the single plant preference according to Art. 8.1 of the *Shenzhen Code* (Turland et al., 2018). The plant on the sheet with mature florets and cypselae is in excellent condition and matches the characters cited by Guillaumin (1937) in his protologue of *Brachyscome neocaledonica*. Critically, our designation not only furnishes *B. neocaledonica* with an appropriate type but also recognises that, while Nesom (1994) failed to accurately typify that name for his new genus *Pytinicarpa*, he based his descriptions of that genus and species, and drew the original diagnostic illustration accurately from the specimen we have typified here.

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Recommended for publication by S.L. Mosyakin

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Гербарій Квінсленду, відділ навколишнього середовища та науки, Ботанічні сади Брісбена, Тувоунг, Квінсленд, Австралія: Цзянь Ван, Г. Гаймер. Технічний університет УніТек, Окленд, Нова Зеландія: П.Дж. де Ланге.

**Реферат.** Обрано лектотип (P00537796) назви *Brachyscome neocaledonica* Guill. (зараз цей вид визнаний як *Pytinicarpa neocaledonica* (Guill.) G.L.Nesom), типового виду роду *Pytinicarpa* G.L.Nesom (*Asteraceae*). Лектотипіфікація виявилася потрібною, оскільки Гійомен (Guillaumin) процитував у протолозі лише синтипи для цієї назви; Нісом (Nesom) у першоописі роду *Pytinicarpa* також не обрав лектотип типового виду цього роду. Деякі синтипи з процитованих у протолозі гербарних зборів *Brachyscome neocaledonica* виявилися належними до спорідненого виду *Pytinicarpa sarasinii* (Däniker) G.L.Nesom (*Brachyscome sarasinii* Däniker) або змішаними зборами. З цієї причини обрання лектотипу є важливим для підтримання номенклатурної стабільності та належного застосування назв у цьому роді.

**Ключові слова:** *Asteraceae*, *Astereae*, *Brachyscome*, *Brachyscome neocaledonica*, *Pytinicarpa*, *Pytinicarpa neocaledonica*, лектотипіфікація, Нова Каледонія