

A new species of *Symplocos* (Symplocaceae) from Mont Panié (New Caledonia)

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ABSTRACT

Mont Panié, the highest mountain on New Caledonia, has a rich and distinctive flora. A new species was recently collected and is here described in the genus *Symplocos* (Symplocaceae), which is now represented by seven species in New Caledonia, all endemic. *Symplocos paniensis* Pillon & Nooteboom, sp. nov. is most similar to *S. neocaledonica* (Vieill.) Nooteboom, from which it differs by its shorter leaves with rounded apex, and the more even disposition of the leaves along the twigs. This provides further evidence that the Mont Panié chain, which also includes Mont Colnett and Mont Ignambi, is still under-collected.

RÉSUMÉ

Une nouvelle espèce de Symplocos (Symplocaceae) du Mont Panié (Nouvelle-Calédonie).

Le Mont Panié, la plus haute montagne de Nouvelle-Calédonie, possède une flore riche et originale. Une nouvelle espèce a récemment été découverte et est ici décrite dans le genre *Symplocos*, qui comprend ainsi sept espèces en Nouvelle-Calédonie, toutes endémiques. *Symplocos paniensis* Pillon & Nooteboom, sp. nov. s'apparente à *S. neocaledonica* (Vieill.) Nooteboom, dont il se distingue par ses feuilles plus courtes et à sommet arrondi, et leur disposition sur toute la longueur des rameaux. Ceci démontre à nouveau que la flore de la chaîne du Mont Panié, qui inclut également le Mont Colnett et le Mont Ignambi, est toujours sous-collectée.

KEY WORDS

Symplocaceae,
Symplocos,
under-collected,
micro-endemism,
New Caledonia,
Mont Panié,
new species.

MOTS CLÉS

Symplocaceae,
Symplocos,
sous-collecté,
micro-endémisme,
Nouvelle-Calédonie,
Mont Panié,
nouvelle espèce.

INTRODUCTION

Mont Panié (1628 m) is the highest mountain on New Caledonia. The massif is covered by a large and pristine rainforest hosting an important diversity. In 2006, three expeditions were conducted on Mont Panié, aimed at establishing an inventory of its biodiversity across an altitudinal gradient, and provided an opportunity to collect several undescribed species. One of these, was found in fruit in February and later on in flower in April and belongs to the genus *Symplocos* (Symplocaceae). Because it is morphologically distinct from the other species currently recognised in this genus (Nootboom 1980, 1989, 2005), it is here described as a new species.

SYSTEMATICS

Genus *Symplocos* Jacq.

Symplocos paniensis Pillon & Nootboom, sp. nov.
(Fig. 1)

Symplocos neocaledonica (Vieill.) Nootboom *foliis pseudovercillatis, inflorescentiis numerosis pseudoterminalibus verisimilis; praecipue differt foliis multo brevioribus, omnibus sessilibus ovatis apice rotundatis.*

TYPUS. — New Caledonia, Mont Panié, 1600 m, 8.IV.2006, fl., Pillon, Spir, Munzinger, Blaffart, Farino & Wanguene 354 (holo-, P; iso-, L, MO, NOU).

MATERIAL EXAMINED. — Mont Panié, 1600 m, 16.II.2006, fr., Pillon & Grignon 302 (NOU, P). — Mont Panié, 1400-1550 m, 8.IV.2006, fr., Pillon, Spir, Munzinger, Blaffart, Farino & Wanguene 353 (L, NOU). — Mont Panié, 1600 m, 8.IV.2006, fl., Pillon, Spir, Munzinger, Blaffart, Farino & Wanguene 354 (L, MO, NOU, P, type).

DESCRIPTION

Sparsely branched shrub, up to 4 m high, branches $\pm$ vertical. Twig thick, at least 7 mm in diameter when green in innovations, 8-10 mm in diameter when twigs have mature bark, glabrous. Bark brown with longitudinal streaks. Leaves $\pm$ in pseudowhorls of 7-12. Adult leaves 4-10 cm $\times$ 2.5-6 cm, sessile, obovate, base cordate, apex obtuse, flat or sometimes retuse; blade coriaceous with minute teeth, drying $\pm$ pale green or yellowish; venation pinnate, somewhat palmate at the base, brochidodromous, 7-12

pairs of secondary veins forming an angle between 40° and 80° with the midrib; midrib broad, up to 4 mm on the abaxial surface, narrowing progressively towards the apex; venation appearing light green on the adaxial surface when fresh, weakly distinct when dried. Inflorescences pseudoterminal, up to 15, 3-7 cm long spikes, sometimes branched near the base, axis pubescent, hair less than 1 mm long; bracts triangular, 2.5-3 mm long, bracteoles 2, 1.5-2 mm long, bracts and bracteoles pubescent on the margin and sometimes on the abaxial midrib. Flowers sessile, white, spirally arranged, between 2.5 and 3.5 flowers per cm of inflorescence axis; ovary inferior, 1-1.5 mm long; sepals imbricate, triangular, 2 mm long; receptacle with caducous hairs, style 1.5-2 mm long; petals and stamens unknown.

Fruit black, ovoid, broader in the lower half, 1.5-1.8 $\times$ 0.6-0.8 cm, producing a blue dye when specimens are pressed; endocarp longitudinally ribbed, 1-1.2 $\times$ 0.6-0.7 cm; seed curved, *c.* 5 mm long, endosperm abundant, embryo J-shaped, 4 mm long.

DISTRIBUTION AND HABITAT

This new species is to date only known from Mont Panié above 1400 m, where it is found in shrubby montane vegetation. The species is probably uncommon as only two individuals have been seen (Fig. 2).

DISCUSSION

The new species described here is most similar to *Symplocos neocaledonica* from which it differs by the leaves, which are shorter, all sessile and obovate rather than narrowly obovate, and which are spread along the twigs and not only terminal or at the nodes. The latter character is difficult to evaluate in *S. neocaledonica* as only the tips of the twigs are generally collected for herbarium specimens because of the large size of the leaves. However in the field, leaves of *S. neocaledonica* are generally restricted to the nodes or the terminal parts of the twigs (Y. Pillon pers. obs.). In addition to the six species recognised in the last revision of the genus for New Caledonia (Nootboom 1989), the new species described here brings the total to seven species in New Caledonia, all endemic.

In the two keys provided by Nootboom (1989), *Symplocos paniensis* would key out to *S. neocaledonica*. Both keys can be modified as follows:

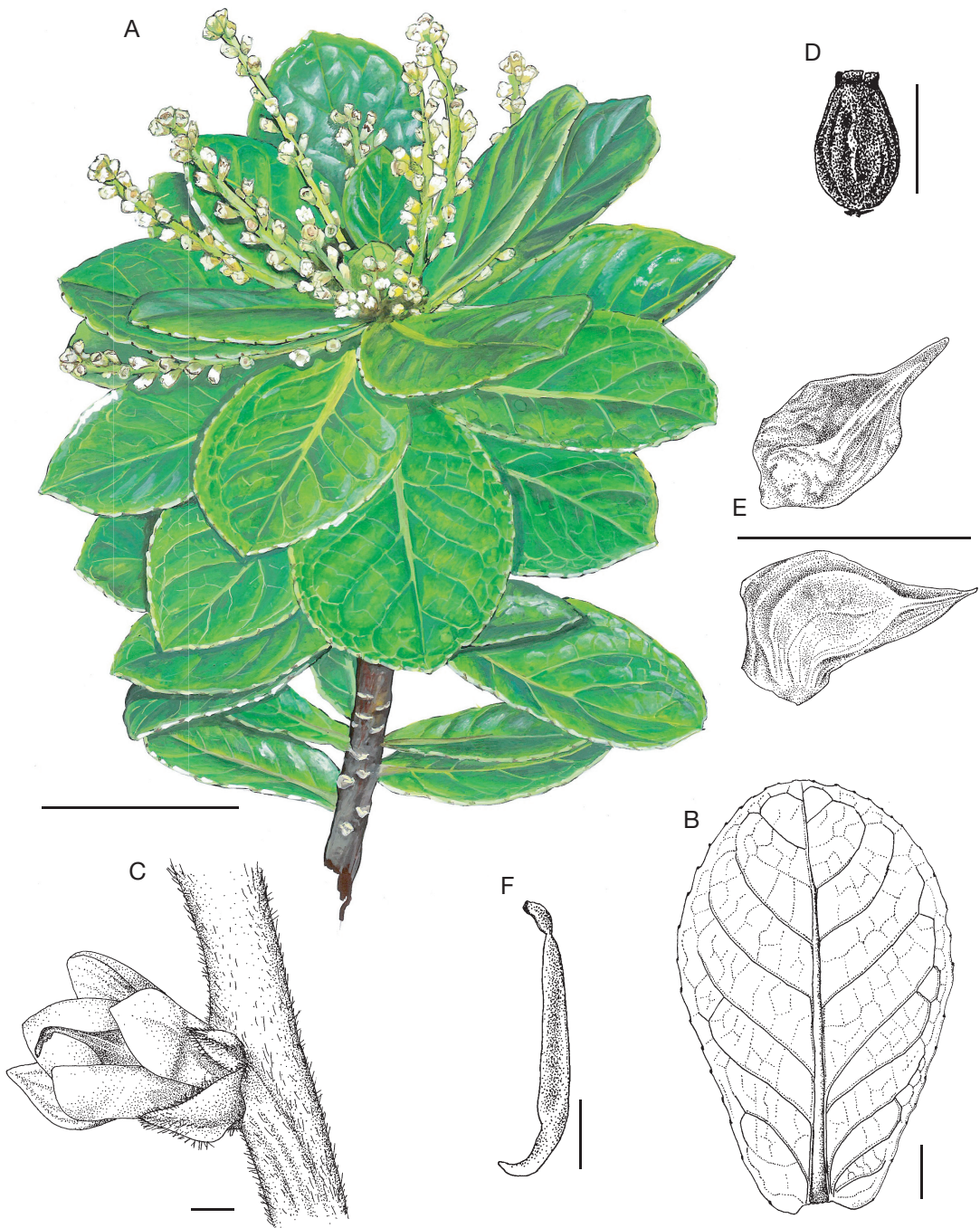


FIG. 1. — *Symplocos paniensis* Pillon & Nootboom, sp. nov.: **A**, flowering twig; **B**, details of one leaf; **C**, old flower with stamen missing; **D**, fruit (dried); **E**, seeds (two views); **F**, embryo. A-C, Pillon et al. 354; D-F, Pillon et al. 353. Scale bars: A, 5 cm; B-D, 1 cm; E, 0.5 cm; F, 1 mm. Drawn by Laurence Ramon.

- 2a. Twigs thick (diameter > 5 mm), leaves in pseudowhorls of more than five, petiole short or absent, leaving large conspicuous scars:
- Leaves 18-80 cm long with an acute apex, mostly at the nodes or at the tips of the twigs *S. neocaledonica*
 - Leaves 4-10 cm with obtuse, blunt or retuse apex, leaves in pseudowhorl spread along the stem *S. paniensis*

Symplocos paniensis is another addition to the flora of Mont Panié, and its recent discovery confirms that this mountain is still under-collected. Mont Panié has received a lot of attention because its summit is the highest point on New Caledonia. Other recently discovered species on Mont Panié include *Zygogynum fraterculum* Vink (Winteraceae, Vink 2003), first collected in 1999, and *Paphia paniensis* S. Venter & Munzinger (Ericaceae), first collected in 2003 (Venter & Munzinger 2007). Recent expeditions to Mont Panié have also extended the range of many species, several of which are rare, e.g., *Cunonia rupicola* Hoogland, originally known only from Roche Ouaième (Hoogland *et al.* 1997; Bradford & Jaffré 2004) and *Sphenostemon comptonii* Baker f., originally known only from the type from Mont Ignambi (Jérémie 1997). However, most of the botanical collections have been made along the same paths on the eastern slope and large areas of pristine forest remain under-explored. While Mont Panié seems to be an important centre of micro-endemism, this may be an artefact as the neighbouring mountains Mont Colnett (1512 m) and Mont Ignambi (1311 m) are even less well explored. A number of species that were originally known only from Mont Panié have only recently been recorded from these neighbouring massifs, e.g., *Elaeocarpus gordonii* Tirel (Elaeocarpaceae, Tirel 1983), *Hedy-carya perbracteolata* Jérémie (Monimiaceae, Jérémie 1983), *Zygogynum fraterculum* Vink (Winteraceae, Vink 2003) and an as yet undescribed species of *Pancheria* (Cunoniaceae, Hopkins *et al.* in press). Similarly a new and distinctive genus, *Hooglandia* McPherson & Lowry (Cunoniaceae) was recently collected and described from Mont Ignambi (McPherson & Lowry 2004). Additional collecting will be necessary to complete the inventory of these three mountains, and significant discoveries can be expected.

CONSERVATION STATUS

Symplocos paniensis is so far only known from primary forest above 1400 m on Mont Panié, but suitable habitat is probably present on Mont Colnett and Mont Ignambi, where it may be found in the future, although the first author did not see this species while exploring Mont Colnett in December 2006. It seems unlikely that *S. paniensis* occurs in other localities considering that it appears to be restricted to high elevation sites. This species is uncommon and is known so far from only two individuals. The areas of occurrence and occupancy are estimated not to exceed 5 km², based on the assumption that *S. paniensis* occurs only on the part of Mont Panié above 1300 m. Even if it were to occur on the two adjacent mountains, the total surface above 1300 m does not exceed 8 km². Mont Panié is classified as a botanical reserve and the vegetation is well preserved. However, because *S. paniensis* is only known above 1400 m, reduction of habitat may be anticipated due to projected climate change. *Symplocos paniensis* could qualify for Critically Endangered (CR), but because the area where it occurs is under-collected and the immediate threat does not seem to be as serious as for other parts of New Caledonia, we assign it a provisional status of Endangered (EN B1ab(i,ii,iii); B2ab(i,ii,iii); D). Increased collection effort would help refining this conservation status.

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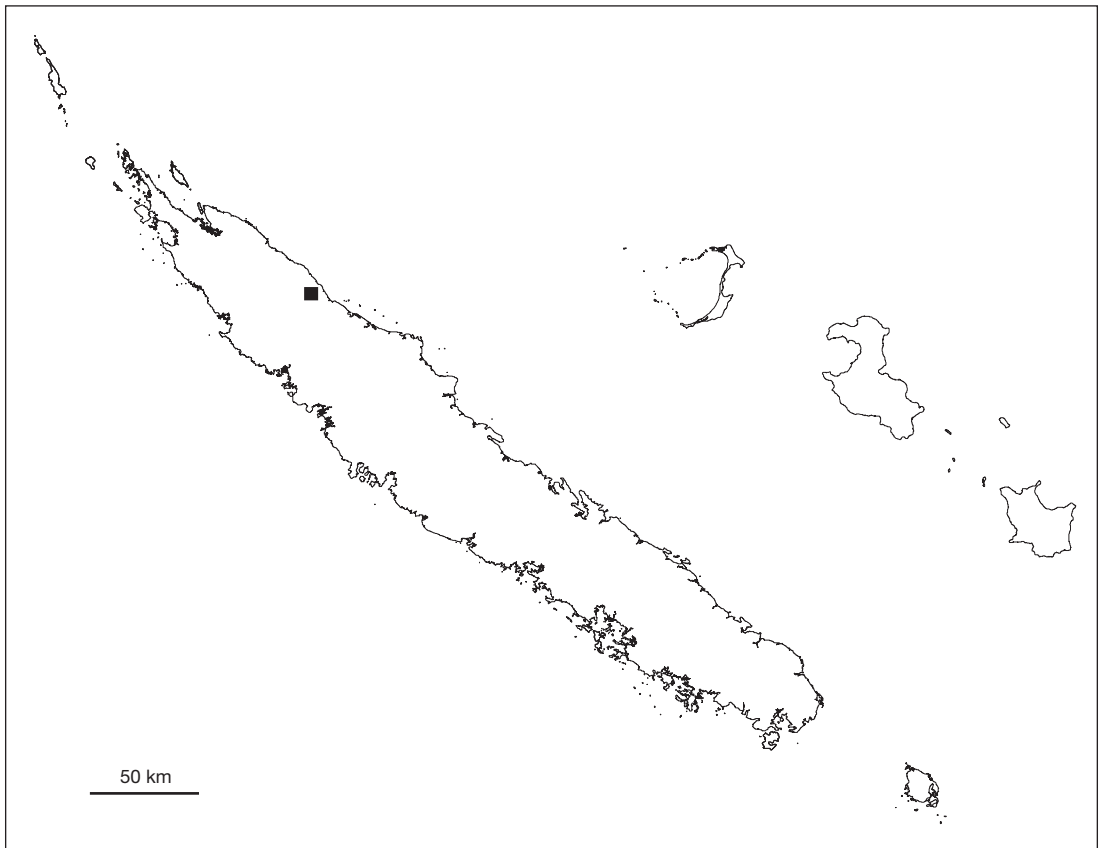


FIG. 2. — Distribution of *Symplocos paniensis* Pillon & Nooteboom, sp. nov. in New Caledonia.

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