

Two New Cauliflorous Species of *Daphnopsis* (Thymelaeaceae) from French Guiana and Surinam

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ABSTRACT. Two new cauliflorous species of *Daphnopsis* (Thymelaeaceae) from French Guiana and Surinam are described, illustrated, and their relationships discussed. A key to the species of Thymelaeaceae in French Guiana and Surinam is provided. *Daphnopsis granitica* Pruski & Barringer and *D. granvillei* Barringer grow on the granitic inselbergs of northern to southwestern French Guiana and adjacent Surinam. They are each characterized by brachyblasts from older stems, the absence of petaloid appendages, and the presence of orange fruits. *Daphnopsis granitica* is distinctive because of its narrowly oblanceolate leaves, while *D. granvillei* has broader, oblanceolate to obovate leaves.

RESUMEN. Se describe y ilustra dos nuevas especies caulifloras de *Daphnopsis* (Thymelaeaceae) de la Guyana Francesa y Surinam y se discute sus relaciones. Se presenta una clave para las especies de Thymelaeaceae de la Guyana Francesa y Surinam. *Daphnopsis granitica* Pruski & Barringer y *D. granvillei* Barringer crecen sobre lajas graníticas del norte al suroeste de la Guyana Francesa y la región adyacente de Surinam. Ambas especies se caracterizan por tener braquiblastos de los tallos viejos, por la ausencia de apéndices petaloides y por la presencia de frutos anaranjados. *Daphnopsis granitica* se diferencia por tener las hojas angostamente oblanceoladas, mientras que *D. granvillei* tiene las hojas más anchas y oblanceoladas a obovadas.

**Key words:** brachyblast, cauliflory, *Daphnopsis*, French Guiana, *Schoenobiblus*, Surinam, Thymelaeaceae, Thymelaeoideae.

*Daphnopsis* Martius (Thymelaeaceae: Thymelaeoideae) is a genus of 50 to 65 species native to the Neotropics (Barringer & Nevling, 2004; Herber, 2003 [2002]). Species are shrubs or small trees

with small, tubular or campanulate, essentially apetalous, unisexual flowers with eight stamens, short calyx lobes, and a pseudomonomerous ovary. The genus was most recently revised by Nevling (1959, 1963).

The following species were discovered during exploration of isolated, granitic mountains of French Guiana by Jean-Jacques de Granville and his associates. In February 2003, a team from Utrecht University collected *Daphnopsis granvillei* in the Nassau Mountains of Surinam, 150 km west of Montagnes de la Trinité, French Guiana. These two new species are the first species of *Daphnopsis* described from French Guiana and Surinam. They are also the sole species of *Daphnopsis* with orange fruits, a feature previously considered diagnostic for the genus *Schoenobiblus* Martius.

Most specimens of each species described herein have been distributed to specialists using the family identifications of either Myrsinaceae or Erythroxylaceae. *Daphnopsis granitica* was known solely as a herbarium name of the second author, then at US, where it was revived by the first author. *Daphnopsis granvillei* Barringer was treated as *Daphnopsis* sp. 1 by Kawasaki and Mori (2002). The only other Thymelaeaceae reported from French Guiana or Surinam, *Schoenobiblus daphnoides* Martius, is distinguished by its rotate, deeply lobed calyces, and its four stamens. The key in Kawasaki and Mori (2002) is modified below.

KEY TO THE SPECIES OF THYMELAEACEAE IN FRENCH  
GUIANA AND SURINAM

- 1a. Flowers and fruits in terminal cymes; calyx tube shorter than the lobes; stamens 4 . . . . .  
     . . . . . *Schoenobiblus daphnoides* Martius  
 1b. Flowers and fruits in brachyblasts on older stems;  
 calyx tube longer than the lobes; stamens 8.  
 2a. Leaves narrowly lanceolate, 1.7–3 cm wide;  
 petioles to 2 mm long . . . . .  
     . . . . . *Daphnopsis granitica* Pruski & Barringer

- 2b. Leaves oblanceolate to obovate, 5–9 cm wide; petioles 4–7 mm long . . . . .  
. . . . . *Daphnopsis granvillei* Barringer

We place *Daphnopsis granitica* and *D. granvillei* in subgenus *Neivira* (Grisebach) Nevling (Nevling, 1959), where they resemble the cauliflorous, Venezuelan *D. steyermarkii* Nevling. *Daphnopsis* subg. *Neivira* is characterized by monopodial stems with axillary inflorescences, male flowers with petaloid appendages forming a low ring at the mouth of the calyx tube, and deeply lobed nectary discs. The species from the Guayana Highland differ from the majority of the species in the subgenus, which grow in the mountains of southeastern Brazil, by the absence of petaloid appendages, and probably by having orange to yellow fruits. Further study will likely support recognition of a new subgenus for the cauliflorous species from the Guayana Highland.

***Daphnopsis granitica*** Pruski & Barringer, sp. nov. TYPE: French Guiana. Montagnes de la Trinité, sommet nord alt. 400 m environ, forêt dense sur crête avec caños granitiques en sous bois, 12 Jan. 1984, J.-J. de Granville, C. Berg, M. Jansen-Jacobs & J. van Setten 5890 (holotype, CAY 009959; isotypes, NY, P not seen, U not seen, US 3205040). Figure 1.

*Daphnopsis steyermarkii* affinis, sed foliis brevipetiolatis, lamina anguste oblanceolata subcordata vel rotundata attenuata, fructibus aurantiacis diversa.

Shrubs to small trees to 4 m tall; stems monopodial, subterete, 2.5–5 cm diam., glabrous, bark brown, the terminal bud narrowly deltoid, 2–3 mm long. *Leaves* simple, alternate, clustered at the stem apices, estipulate, subsessile; petiole to 2 mm long, thick; blade narrowly oblanceolate, 11.5–25 × 1.7–3 cm, stiffly chartaceous or subcoriaceous, glabrous, venation pinnate, reticulodromous, basally rounded or subcordate, sometimes slightly clasping, apically attenuate, margins entire. *Staminate flowers* not seen. *Pistillate inflorescences* borne in axillary bracteate clusters (brachyblasts) on older, leafless stems, ca. 20–30 cm below the stem apices, the primary peduncle, rachis, and secondary peduncles basically absent, pedicels to 0.5 mm long, few- to several-flowered, compact. *Pistillate flowers* white; calyx urceolate, the tube 2–2.5 mm long, longitudinally pleated, glabrous to minutely pubescent, 4-lobed, the lobes ligulate, 0.8–1 × 0.5–0.7 mm, obtuse, pubescent toward the apex on the inner surface, longitudinally ridged on the inner surface, strongly recurved; petaloid appendages absent; staminodia absent; pistil fusiform, sessile, ca. 3 mm long, partially surrounded by a deeply-lobed,

coroniform nectary disc; ovary superior, style terminal, stigma exserted, capitate, papillate, white. *Fruit* a drupe-like berry, indehiscent, 1-seeded, ob-ovoid to subglobose, 8–10 mm diam. when mature, smooth, glabrous, green when young, orange at maturity, the style base persistent, the calyx tearing irregularly, persistent at the base of the fruit.

*Distribution and habitat.* This species is found at the base of the granite inselbergs Montagnes de la Trinité and Montagnes des Nouragues, where it has been collected between 110 and 400 m elevation.

*Phenology.* Plants flower in January and bear mature fruits from late February through early April.

*Daphnopsis granitica* appears to be related to *D. steyermarkii* Nevling, *D. guaiquimimae* Steyermark, and *D. longipedunculata* Gilg ex Domke, each of which also has monopodial branching and minute flowers borne in brachyblasts (Nevling, 1967; Steyermark, 1987). *Daphnopsis steyermarkii*, *D. guaiquimimae*, and *D. longipedunculata*, which occur on sandstone substrates in the Guayana Highland, differ from *D. granitica* by having broader leaves and white or green (not orange) fruits. *Daphnopsis granitica* is also similar to *D. granvillei* Barringer, described below, in having brachyblasts and orange fruits but differs from it by narrowly oblanceolate (vs. oblanceolate to oblong) leaves, these slightly (vs. not) clasping.

Specimens very similar to *D. granitica* have been seen by Lucia Rossi (pers. comm.), of the Instituto de Botânica, São Paulo. The specimens were collected in the states of Roraima and Amazonas, Brazil, and have slightly wider and more oblanceolate leaves than *D. granitica* and yellow fruits, these occasionally present near the stem apex. It is possible that these represent an additional new species, although this cannot be confirmed without flowering material.

*Paratypes.* FRENCH GUIANA. Montagnes de la Trinité, Bassin de la Mana, G. Cremers 12824 (CAY, MO, NY, US); Rés. Nat. de la Trinité, Bassin de la Trinité, Fourré de savane-roche, B. Dutréve 50 (CAY); Inselberg granitique à l'extrémité NordOuest de Monts de la Trinité, J.-J. de Granville 4778 (CAY); Montagnes de la Trinité, Sommet Nord, J.-J. de Granville, C. Berg, M. Jansen-Jacobs & J. van Setten 5803 (CAY, NY); forêt basse humide en lisière de savane roche, J.-J. de Granville, C. Berg, M. Jansen-Jacobs & J. van Setten 5923 (CAY, NY); Montagnes de la Trinité, Bassin de la Mana, forêt basse sur pente d'inselberg, pied du versant Sud l'inselberg oriental, J.-J. de Granville 13276 (CAY, US); Montagnes de la Trinité, zone sud, Bassin de la Mana, J.-J. de Granville & F. Crozier 13560 (CAY, NY); Montagne des Nouragues, Bassin de l'Arataye, D. Larpin 504 (CAY); Montagnes des Nouragues, Bassin de l'Approuague-Arataye, D. Larpin 849

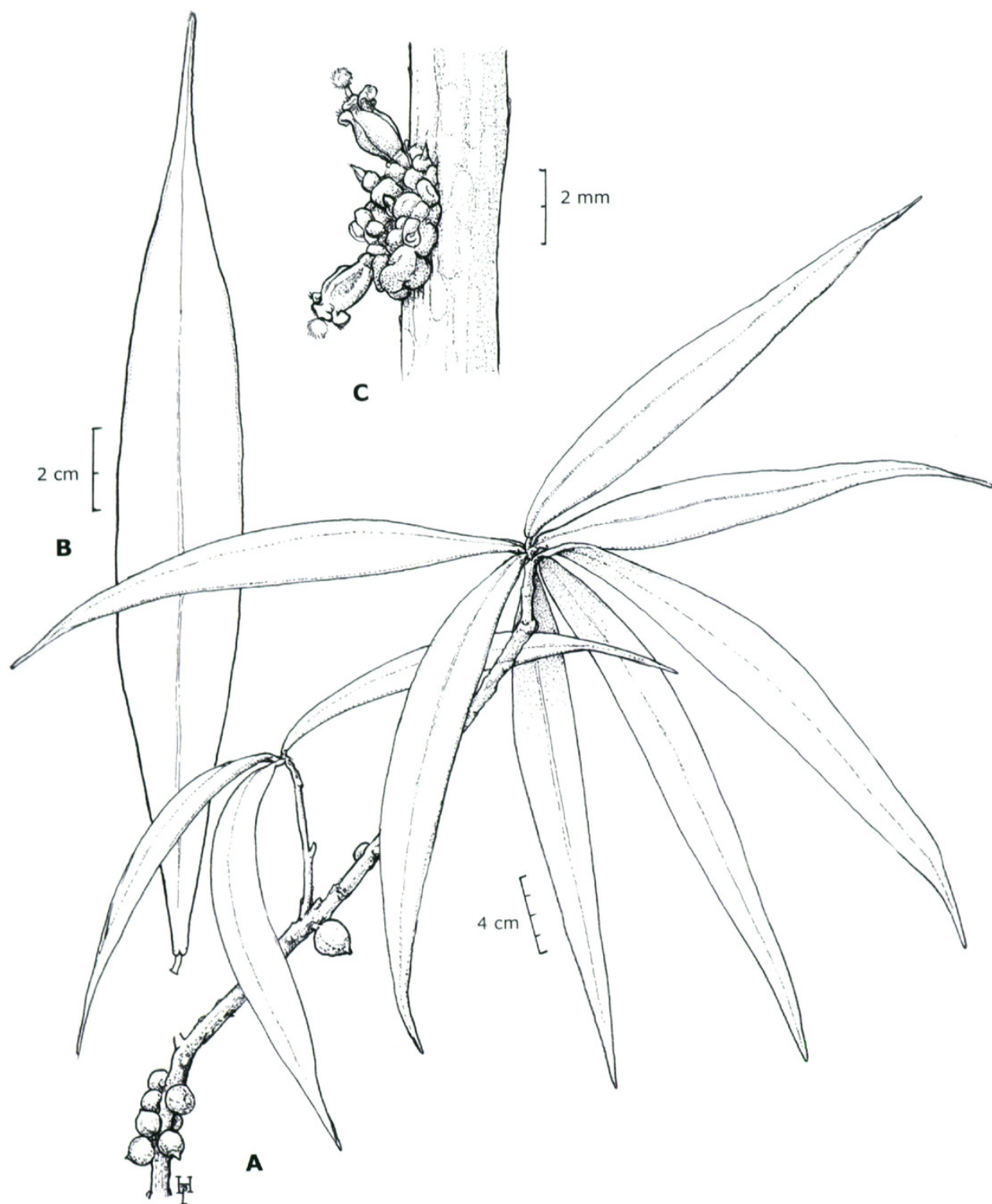


Figure 1. *Daphnopsis granitica* Pruski & Barringer. —A. Habit. —B. Leaf. —C. Brachyblast. Drawn from the holotype, J.-J. de Granville et al. 5890 (CAY).

(CAY, NY, US); Inselberg Trinité, Savane-Roche, J. Villiers & C. Sarthou 6284 (CAY).

***Daphnopsis granvillei*** Barringer, sp. nov. TYPE: French Guiana. Saül, S. du Mont Galboa, 13 Dec. 1976, J.-J. de Granville B.5402 (holotype, CAY 007764). Figure 2.

*Daphnopsi steyermarkii* affinis, sed foliis magnis oblan-

ceolatis vel obovatis acuminatis, fructibus rubris vel aurantiacis diversa.

Sparsely branched, shrub to 2 m tall; stems monopodial, terete, to 2 cm diam., glabrous, the young stems red-brown. *Leaves* simple, alternate, clustered at the stem apices, estipulate, short-petiolate; petiole 4–7 mm long, thick, slightly winged on the abaxial side; blade oblanceolate to obovate,

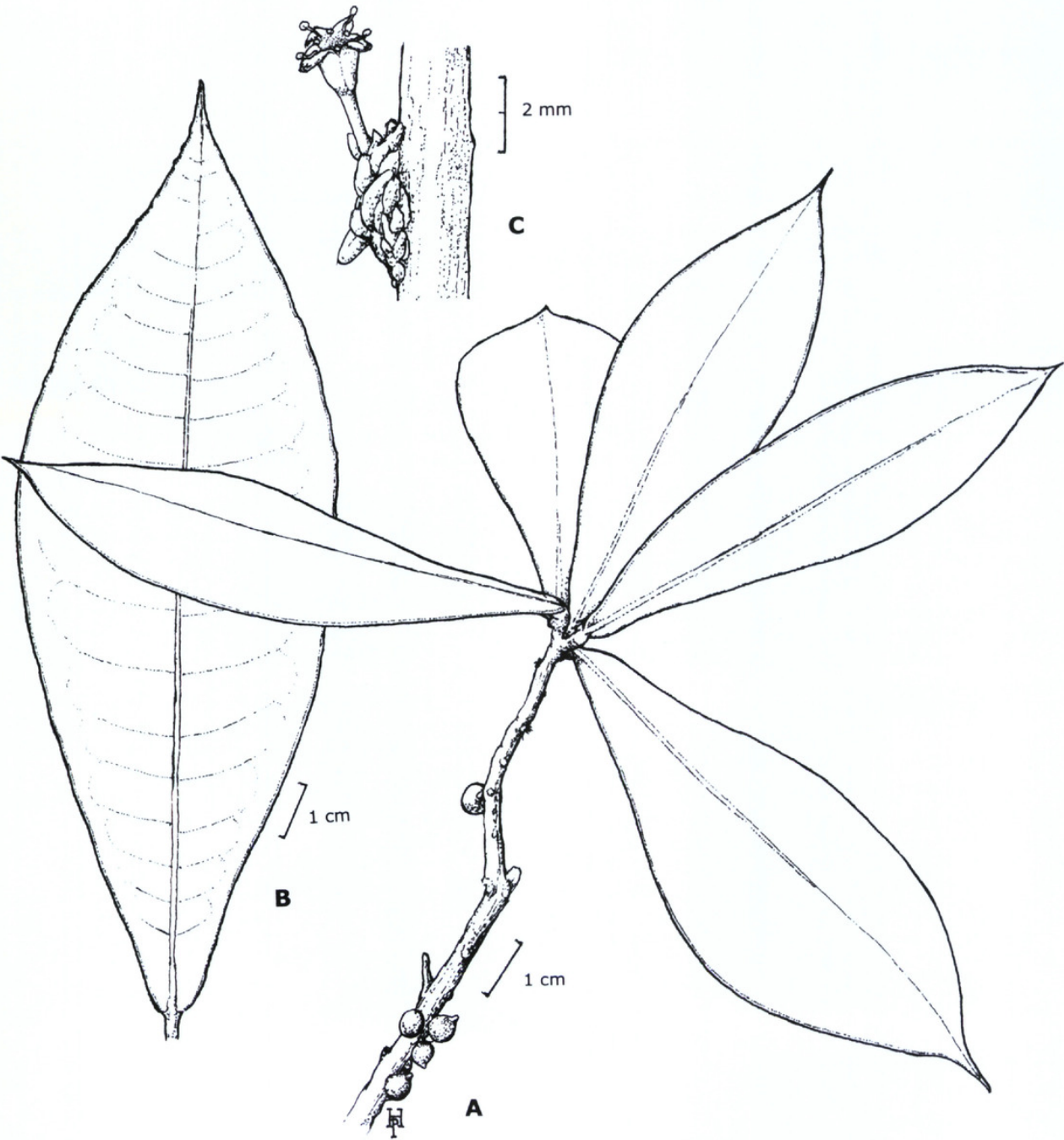


Figure 2. *Daphnopsis granvillei* Barringer. —A. Habit. —B. Leaf. —C. Brachyblast. Drawn from the holotype, *J.-J. de Granville B.5402* (CAY).

15–30 × 5–9 cm, subcoriaceous, glabrous, venation pinnate, reticulate, obscure, basally cuneate, but abruptly rounded at the junction with the petiole, apically long-acuminate, margins entire. *Staminate inflorescences* borne from axillary, bracteate brachyblasts on older, leafless stems, the primary peduncle to 1(2) mm long, rachis absent, secondary peduncles 1–1.5 mm long, pedicels 1.2–1.5 mm long, few-flowered, compact. *Staminate flowers* white; calyx tubular-campanulate, the tube 2.1–2.5 mm long, 1.5–2 mm wide at the mouth, 4-angled, especially in bud, the lobes triangulate to ovate, 0.5–0.7 mm long, 1 mm wide at the base, spread-

ing, cymbiform in bud, apically acute to obtuse, acuminate with a small papillate knob; stamens 8, in 2 whorls, the antesealous whorl borne on the surface of the calyx lobes near the apex, the filaments 0.5–0.7 mm long, the alternisepalous whorl borne at the mouth of the calyx tube, the filaments 0.3–0.5 mm long; disc free, deeply lobed, the lobes acute, to ca. 1 mm long; pistillode glabrous, stalked, 1.2–1.7 mm long. *Pistillate flowers* not seen. *Fruit* a drupe-like berry, ovoid, to 10 mm long, to 8 mm wide, reddish or orange, glabrous, apiculate, the style often persistent.

*Distribution and habitat.* This species grows on hilltop forests from 500 to 600 m elevation.

*Phenology.* Plants bloom in December and January and bear mature fruit in March.

This species is most similar to *Daphnopsis granitica*, described above. Like that species, the flowers of *D. granvillei* are borne in compact, axillary inflorescences on older, leafless stems and both have orange fruits, the only species where this is known. *Daphnopsis granvillei* grows at higher elevations and in more localities than *D. granitica*, but both are found on the Montagnes de la Trinité. The narrowly lanceolate, slightly clasping leaves of *D. granitica* are distinctive and make it easy to distinguish from *D. granvillei*.

*Paratypes.* FRENCH GUIANA. Montagne Cacao, SE de Cayenne, C. Feuillet 549 (CAY); Région de Paul Isnard, Massif du Décou Décou, C. Feuillet 689 (CAY); Pente NE des Monts Galboa, à 10 km SW de Saül, J.-J. de Granville 2375 (CAY); Montagnes de la Trinité, sommet NE, in forest on slopes, J.-J. de Granville et al. 6377 (CAY). SURINAM. Marowijne Distr., Nassau Mts., Plateau C, M. J. Jansen-Jacobs, J. Behari-Ramdas, A. Grant, G. Ramharraakh, H. ter Steege, O. Bánki, F. van Troone & R. Ho Tsoi 6377 (MO, U not seen), 6484 (MO, U not seen).

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