

Elattostachys (Blume) Radlk. (Sapindaceae) in Fiji¹

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ABSTRACT: *Elattostachys vitiensis* Seemann ex Radlk. is separated from *E. falcata* (A. Gray) Radlk., as a distinct species. *Elattostachys falcata* is reduced to *E. apetala* (Labill.) Radlk. A key to the species of *Elattostachys* (Blume) Radlk. in Fiji and some distributional notes are given.

Elattostachys falcata AND *E. vitiensis*

IN FLORA VITIENSIS NOVA A. C. Smith (1985: 610) reduced *Elattostachys vitiensis* Seemann ex Radlk. to *E. falcata* (A. Gray) Radlk.: “The Seemann type [*E. vitiensis*] has the leaflet blades scarcely falcate, slightly larger and proportionally broader than those of typical *E. falcata*, but there is a complete transition between the extremes and the foveolate or efoveolate leaflet character utilized by Radlkofer is undependable.”

Probably Smith overlooked a further character mentioned by Radlkofer (1879): Fruits inside with purplish hairs (*E. vitiensis*) versus whitish hairs (*E. falcata*). Moreover, an important seed character was missed by both authors: In *E. falcata* the seed is almost completely covered by a thin arillode (Figure 1A); in *E. vitiensis* only the very base of the seed is covered by a tiny thick sarcotesta (Figure 1B).

There are at least four differences between *E. falcata* and *E. vitiensis*: (1) leaflets (ovate to) lanceolate and falcate in *E. falcata*, elliptic to ovate and not falcate in *E. vitiensis* (Figure 2); (2) usually at least some of the leaflets foveolate (= with domatia) in *E. falcata*, efoveolate (= without domatia) in *E. vitiensis* (Figure 2); (3) fruits inside with whitish hairs in *E. falcata*, with purplish hairs in *E. vitiensis*; (4) seeds almost totally covered by an arillode in *E. falcata*, only the very base covered by a sarcotesta in *E. vitiensis*.

Together, these differences are more than

enough to separate *Elattostachys vitiensis* from *E. falcata*.

The proper citation of the species name is as follows:

Elattostachys vitiensis Seemann ex Radlk., Sitzungsber. Math.-Phys. Cl. Königl. Bayer. Akad. Wiss. Muench. 9 (1879), 602.—*Cupania vitiensis* Seemann, Bonplandia 9 (1861), 254 (nomen nudum).—Type: Seemann 68, Fiji, (A?, holotype, isotype in P).

Elattostachys apetala AND *E. falcata*

When the New Caledonian *Elattostachys* material was being revised, a problem arose involving *E. apetala* (Labill.) Radlk. and *E. falcata*. These species differ according to Radlkofer (1933) in the following characters:

E. falcata: Leaflets 1.5–2 cm wide, inconspicuously pellucid dotted.

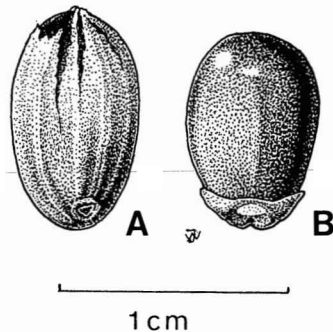


FIGURE 1. Seeds. A, *Elattostachys falcata* (A. Gray) Radlk. [= *E. apetala* (Labill.) Radlk.]. B, *E. vitiensis* Seemann ex Radlk.

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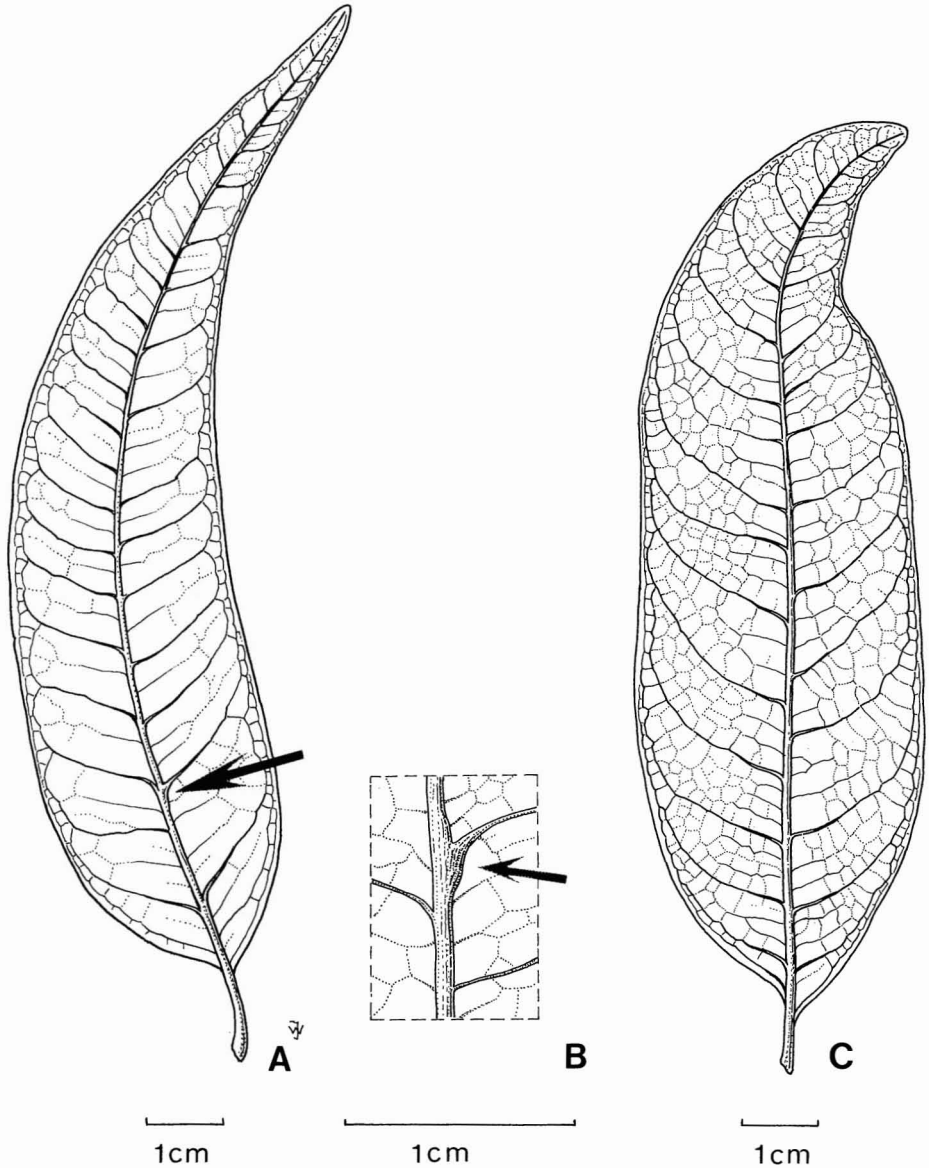


FIGURE 2. Leaflets. A, B, *Elattostachys falcata* (A. Gray) Radlk. [= *E. apetala* (Labill.) Radlk.]. Arrows indicate the domatium. C, *E. vitiensis* Seemann ex Radlk.

E. apetala: Leaflets 3–5 cm wide, without pellucid dots.

Furthermore, the disc of *E. apetala* is reported to be glabrous; in *E. falcata* (not given by Radlkofer) the disc supposedly is hairy.

In the New Caledonian material of these two species no differences could be found.

Most specimens have leaflets 2–5 cm wide with at least some pellucid dots, and in one specimen the disc is hairy.

In Fijian *E. falcata* the leaflets are 2–4 cm wide, usually with many, rarely with few, pellucid dots. The discs are glabrous or hairy.

Because there are only a few gradual differ-

ences between the two species, they are here combined into one. The epithet *apetala* is the older of the two, and the proper name of the combined species is as follows:

Elattostachys apetala (Labill.) Radlk., Sapind. Holl.-Ind. (1879), 42; Sitzungsber. Math.-Phys. Cl. Königl. Bayer. Akad. Wiss. Muench. 9 (1879), 531, 602; in Engler, Pflanzenr. 98 (1933), 1267.—*Cupania apetala* Labill., Sert. Austero-Caled. 2 (1825),

72, t. 73. Type: *Labillardière s.n.*, New Caledonia (non vidi).—*Cupania falcata* A. Gray, Bot. U.S. Expl. Exped. 1 (1854), 252.—*Elattostachys falcata* (A. Gray) Radlk., Sapind. Holl.-Ind. (1879), 42; Smith, Fl. Viti. 3 (1985), 609. Lectotype (A. C. Smith, 1985): *U.S. Expl. Exped. s.n.* (us 17734, holotype, isotype? in A).

A. C. Smith (1936) described a third species of *Elattostachys* from Fiji: *E. venosa*. The Fijian species can be keyed out as follows:

KEY TO THE FIJIAN SPECIES OF *Elattostachys*

- 1a. Twigs, petiole, rachis, and midrib of leaflets below strigillose. Fruits 13–15 by 10–14 mm, glabrous outside 2
- 1b. Twigs, petiole, rachis, and midrib below tomentose. Fruits 17–20 by 17–20 mm, hairy outside *E. venosa*
- 2a. Leaflets (ovate to) lanceolate, usually falcate, 5.5–17.5 by 2–4 cm, usually with 1 large saccate domatium, rarely without or with 2 or 3 domatia. Endocarp whitish tomentose. Seeds almost totally covered by an arillode *E. apetala*
- 2b. Leaflets elliptic to ovate, not falcate, 7–12.5 by 3–4 cm, without domatia. Endocarp purplish tomentose. Seeds basally with a tiny sarcotesta *E. vitiensis*

DISTRIBUTIONAL NOTES

Elattostachys apetala: Widespread Pacific species. Known from New Caledonia, the New Hebrides, Fiji, Samoa, Tonga, and Niue (Sykes 1970: 186, 187).

E. venosa: Rare and endemic in Fiji. Known from three collections from Viti Levu and Vanua Levu (Smith 1985).

E. vitiensis: Rare and endemic in Fiji. Known from two collections from Ovalau (Seemann 68) and Viti Levu (*Linney 86026-4*).

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LITERATURE CITED

RADLKOFER, L. 1879. Ueber *Cupania* und damit verwandte Pflanzen. Sitzungsber. Math.-Phys. Cl. Königl. Bayer. Akad. Wiss. Muench. 9: 457–678.

———. 1933. Sapindaceae, *Elattostachys*. Pages 1258–1268 in A. Engler, Pflanzenreich 98. Leipzig.

SMITH, A. C. 1936. Fijian plant studies. Bernice P. Bishop Mus. Bull. 141: 1–166.

———. 1985. Flora Vitiensis Nova 3. Pacific Tropical Botanical Garden, Hawai'i.

SYKES, W. R. 1970. Contributions to the flora of Niue. N.Z. Dep. Sci. Ind. Res. Bull. 200: 1–321.