

# A New Species of *Korthalsia* (Palmae) from Laos and Vietnam

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A new species of *Korthalsia* from Laos and Vietnam is described and illustrated, and compared with similar species.

*Korthalsia* contains 27 species (Govaerts & Dransfield 2005), widely distributed throughout the Asian tropics from Myanmar in the west to New Guinea in the east. The most widely distributed species is *Korthalsia laciniosa* (Griff.) Mart., which occurs in Myanmar, the Andaman and Nicobar Islands, Thailand, Cambodia, Laos, Vietnam, Malaysia, Sumatra, Java, and the Philippines (Henderson 2009).

During our field work in Vietnam we have noticed that there is great variation in size of pinnae within *Korthalsia laciniosa*, and in herbaria there appear to be two groups of specimens present from the country, one with larger-sized (24–33 cm long and 11–18 cm wide) and the other with smaller-sized (13.5–20 cm long and 6–11 cm wide) pinnae. Evans et al. (2002) also noted this difference

in Laos, and referred to the smaller-sized specimens as *Korthalsia* sp. A. to distinguish them from *K. laciniosa*.

Larger-sized specimens from Laos and Vietnam correspond to *Korthalsia laciniosa* as represented by the type (which we have seen in the Brussels herbarium) and many specimens in other herbaria. One possible name for the smaller-sized specimens is *K. bejaudii* Gagnepain, a little known species from Cambodia. We have now examined the type of this in the Paris herbarium. There are two sheets. The leaf and ocreas on one sheet appear to be from an apical leaf and this would account for their small size. The second sheet has more typical *K. laciniosa* size pinnae. Although young fruits were described by Gagnepain (1937) and illustrated by Gagnepain and Conrard (1937, fig. 96), they

are not present on either of the two Paris sheets. On one sheet there is a drawing of a fruit (repeated in Gagnepain & Conrard 1937), but there is no indication of the nature of the endosperm. However, the drawing clearly shows the lacinate fruit scales typical of *K. laciniosa*. We conclude that *K. bejaudii* is a synonym of *K. laciniosa*.

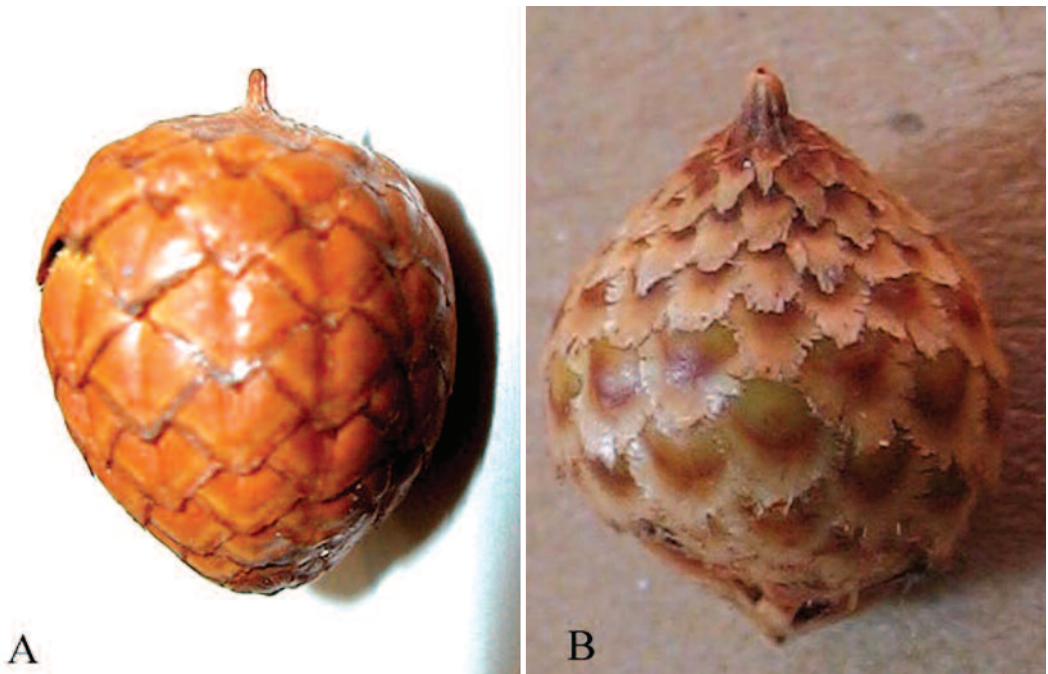
Most of the smaller-sized specimens are sterile, but we now have three fertile specimens. Comparison of the fruits of smaller-sized specimens with those of *K. laciniosa* shows clear differences. The smaller-sized specimens have fruits to 1.2 cm long with evenly brown, non-lacinate scales (Fig. 1A) and seeds with homogeneous endosperm; while *K. laciniosa* has fruits to 2 cm long with lacinate, bi-colored scales (Fig. 1B) and seeds with ruminant endosperm. Here we describe the smaller-sized specimens as a new species.

***Korthalsia minor*** Henderson & N. Q. Dung, **sp. nov.**, it differs from *Korthalsia laciniosa* in its smaller pinnae, fruits with evenly brown, non-lacinate scales, and seeds with homogeneous endosperm. Type. Vietnam. Dong Nai: Cat Tien National Park, road to north of park headquarters, 11°26'N, 107°23'E, 150 m, 25 May 2007, A. Henderson & Bui Van Thanh 3390 (Holotype: HN! Isotype: NY!) (Fig. 2).

Stems clustered, branching in the canopy or more often near ground level, to 50 m long, 0.8–2 cm diameter with leaf sheaths, 0.6–1.2 cm diameter without leaf sheaths; sheaths green with brown tomentum, with scattered, black, triangular spines to 1 cm long, often without spines; ocreas 4–13 cm long, fibrous, truncate, becoming loose and net-like in older leaves, seldom spiny; petioles 4–15 cm long, 0.3–0.5 mm wide, brown tomentose initially; rachis 40–50 cm long, tomentose as the petiole, with scattered, recurved spines abaxially; pinnae 4–8 pinnae per side of rachis, rhomboid, regularly arranged, with a distinct proximal stalk, 13.5–20 cm long, 6–11 cm wide at widest point, silvery-gray abaxially; cirri 30–65 cm long, spiny abaxially as the rachis. Compound inflorescences 25–40 cm long; individual inflorescences 8–10 cm long; rachillae to 10 cm long, 0.5 cm diameter, densely reddish-brown tomentose; only old flowers seen; sepals 2 mm long, split almost to the base into 3 lobes; petals to 4 mm long, free, valvate; fruits obovoid, 0.8–1.2 cm long, 0.7–1.5 cm diameter; scales brown, non-lacinate; seeds with homogeneous endosperm; embryo lateral.

**Local names and uses:** Laos: *wai nga, wai nyeng, wai neng, detlhe*; Vietnam: *may dung dinh, may ra nho, may ra, phuon nho*. In Laos the

1. A. Fruit of *Korthalsia minor* (from Khamphone KP 451); B. Fruit of *K. laciniosa* (from a specimen photographed by Khou Eang Hourt in Kirirom, Cambodia).





2. *Korthalsia minor*. A. Apical part of flowering stem. B. Pinnae. C. Ocrea. D. Inflorescence with immature fruits (all from Henderson & Bui Van Thanh 3390).

shoots are reported to be edible, and the stems are used for tying. Like other species of *Korthalsia*, the stems are generally of too poor a quality for furniture making.

**Distribution and habitat:** Laos (Bolikhamsay) and central and southern Vietnam (Bien Hoa, Binh Thuan, Dong Nai, Quang Tri and Thua Thien-Hue), in lowland or montane forest, or

drier forest or disturbed areas, at 100–892 m elevation.

**Notes:** A single, sterile specimen from Mondulikiri, Cambodia (*Evans TDE 91*), may be *Korthalsia minor*, but there is some doubt. On the specimen label it says, “None has the neatly truncate zoned short ocrea of *K. sp.* A from Laos.” Khou Eanghourt (2008) placed all Cambodian specimens in *K. laciniosa* and described the endosperm as ruminant.

*Korthalsia minor* may be confused with *K. laciniosa*, especially if sterile. As pointed out by Dransfield (1981), *K. laciniosa* is a variable species. We have seen some specimens with similar pinnae dimensions to those of *K. minor* from Peninsular Malaysia and Thailand, but in all cases, when fertile, they have fruits typical of *K. laciniosa*. Plants vary not just geographically but also developmentally. Younger leaves from *K. laciniosa* are likely to approach those of *K. minor* in size, and because species of *Korthalsia* are hapaxanthic (semelparous) (Henderson 2009), leaves from near the apices of fertile stems are likely to be smaller than others.

Apart from *K. laciniosa*, specimens of *K. minor* of unknown origin could be confused with several species with similar dimensions (Dransfield 1981). *Korthalsia debilis* from Sumatra and Borneo has gray rachillae tomentum (versus reddish-brown rachillae tomentum in *K. minor*); *K. tenuissima* from the Malay Peninsula has compound inflorescences with 1–3 rachillae only (versus inflorescences with numerous rachillae in *K. minor*); *K. concolor* from Borneo has concolorous pinnae (versus pinnae silvery-gray abaxially in *K. minor*); *K. rogersii* from the Andamans has seeds with ruminant endosperm (Mathew et al. 2007) (versus seeds with homogeneous endosperm in *K. minor*); *K. paucijuga* from Sumatra and Borneo lacks a petiole (versus petioles 4–15 cm long in *K. minor*); *K. celebica* from the Celebes has seeds with ruminant endosperm (versus seeds with homogeneous endosperm in *K. minor*); *K. rigida* from southern Thailand and the Malay Peninsula, Sumatra, Borneo and Palawan has 2.5–5.0(–8.0) cm long ocreas which scarcely split (Hodel 1998) (versus 4–13 cm long ocreas, which become loose and net-like in *K. minor*).

**Additional specimens examined.** VIETNAM. BIEN HOA: “Song Lu(?), austro Cochinchina,” Feb 1877, *Pierre 1878* (A, K, NY, P). BINH THUAN: Tanh Linh District, Nui Ong Nature Reserve, 11.02°N, 107.71°E, 158 m, 21 Oct 2009,

*Henderson et al 3632* (HN, NY). DONG NAI: Cat Tien National Park, road to north of park headquarters, 11°26'N, 107°23'E, 150 m, 25 May 2007, *Henderson et al. 3390* (HN, NY); Cat Tien District, Doi Dat Do, National Cat Tien Park, 11°26'N, 107°24'E, 110 m, 15 Nov 2006, *Le Dong Tan et al. 754* (NY). QUANG TRI: Da Krong District, Da Krong Nature Reserve, near Ba Long Commune, 16.651°N, 107.037°E, ca. 500 m, 28 Feb 2009, *Henderson et al. 3497* (HN, NY). THUA THIEN-HUE: Bach Ma National Park, steep forested slopes, 16°14'N, 107°52'E, ca. 100 m, 12 Apr 2007, *Henderson et al. 3265* (HN, NY); Phong Dien District, Phong Dien Nature Reserve, 16.577°N, 107.232°E, ca. 300 m, 5 Mar 2009, *Henderson et al. 3520* (HN, NY); Phong Dien District, Phong Dien NR 16°30.923'N, 107°12.649'E, 783ft., 9, Feb 2012, *Bui Van Thanh et al. PD 10* (HN, NY); A Luoi District, Sao La Nature Reserve, 16.077°N, 107.488°E, 892 m, 7 Mar 2009, *Henderson et al. 3536* (HN, NY); A Luoi District, Sao La Nature Reserve, 16.115°N, 107.426°E, 666 m, 9 Mar 2009, *Henderson et al. 3553* (HN, NY); A Luoi District, Sao La NR, 16°04.691'N, 107°29.178'E, 2294 ft., 15 Feb 2012, *Bui Van Thanh et al. SL 04* (HN, NY). LAOS. BOLIKHAMSAY: Khamkheut, Ban Namuang (map name Ban Nasao), Houay Tin, 14 Mar 1999, *Khamphone KP 388* (FRCL, K); Pakkading, Ban Naphong, headwater of Houay Nyanyoung, 12 Mar 2000, *Viengkham 238* (K); Phou Tat Thone, Ban Naphong, 8 Feb 1999, *Evans 30* (FRCL, K); Thaphabat, headwaters of Houay Say (H. Kay on map), 15 Dec 1998, *Khamphone KP 311* (FRCL, K); Pak Kading, no date, *Khamphone KP 451* (FRCL, K); Ban Nakhua, 10 Feb 1993, *Southone 39* (K).

#### Acknowledgments

Field work in Cambodia and Laos was funded by the World Wildlife Fund's Sustainable Rattan in the Greater Mekong Region project. We thank Thibault Ledecq, Project Manager, for his support. In Laos we thank the Rattan Team, in particular Banxa Thammavong, and in Cambodia we thank the Rattan Team, in particular Ou Ratanak, Phearoom Neak, and Khou Eang Hourt. Field and herbarium work in Vietnam was funded by grants from the National Science Foundation (OISE-0512110), the National Geographic Society, the Fulbright Scholars Program, the International Palm Society, and the John D. and Catherine T. MacArthur Foundation. We thank Professor Chau Van Minh, President of the Vietnam Academy of Science and Technology (VAST), Dr. Ninh Khac Ban, Deputy Director, International Cooperation Department, and

Dr. Le Xuan Canh, Director of the Institute of Ecology and Biological Resources (IEBR) in Hanoi, for their continued support. We thank our colleague at IEBR, Mr. Bui Van Thanh, for his help. We also acknowledge the support of Dr. Ngo Ut, director of the Forest Inventory and Planning Institute (FIPI) and Mr. Pham Duc Lan, director of Forest Resource and Environment Centre (FREC, under FIPI). We thank the curators of the following herbaria for making specimens available for study: A, FRCL, HN, K, MO, NY, P and VNM, Drs. Tom Evans and John Dransfield for sharing their knowledge of *Korthalsia* and Dr. Lauren Gardiner for her help with K specimens. Henderson thanks the Director of the Muséum National d'Histoire Naturelle in Paris for inviting him as a 'Professeur Invité' during December 2012, and Dr. Thomas Haevermans for hosting the visit.

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