

***Musa lokok* (Musaceae), a New Species of Banana from Bario, Borneo**

CONNIE GERI

AND

FRANCIS S. P. NG

Sarawak Biodiversity Centre,
KM 20, Jalan Borneo Height, Semenggoh,
Locked Bag 3032, 93990 Kuching Sarawak, Malaysia

Abstract

Musa lokok Geri & Ng, *sp. nov.* is described and illustrated. Locally, the young unfurled leaves have been used as cigarette wrappers.

Musa lokok

Musa lokok Geri & Ng, *sp. nov.*

Musa suratorum similis sed folius subtus non glauco-ceraceus et fructus pendentis differt. **Typus:** Sarawak: Marudi District, Bario, Pa'Lungan C. Geri & Pasen Paran TK1552, 16 Aug 2005 (holo SAR, iso KEP, E, SBC). Plate 1

Clump forming herbaceous plant to c. 3 m tall to the tip of the leaves. *Suckers* emerging from below ground level from the corm with up to 6 rhizomes radiating horizontally, pseudostems spaced 10–30 cm apart, *mature pseudostem* 1.3–2 m tall, slender about 2.5 cm diam., gradually swollen to 4 cm diam. at the base, covered with brown fibrous persistent old leaf sheaths, emergent leaf sheaths yellowish green. *Sap* watery. Upper margin of sheaths (shoulder) smooth. *Fourth to last leaf:* petiole about 30 x 1 cm, yellowish green, petiole closed almost to the lamina, the channel about one third of the depth of the petiole, lamina 120–126 x 21–24 cm, narrowly elliptic, broadest about the middle, apex acute, base unequal, cuneate, not waxy underneath, light green above and paler underneath. *Inflorescence* hanging vertically downwards. Peduncle glabrous, smooth and without wax, at first white becoming black. †*Female buds* c. 37 x 3 cm, bracts bright purple outside, white inside, lifting to 90°, straight not curling back. First bract sterile, subsequent bracts with 1–3 flowers. *Female flowers* c. 10 cm long, ovary pale cream, the compound tepal deep green, c. 5 cm

long, apically divided into 3 lobes *c.* 9 mm long, the free tepal *c.* 4 cm long, translucent white, wrinkled along the margin, staminodes 5, up to 1 cm long, style pale greenish cream, style and stigma *c.* 4 cm long, stigma glabrous, pure white. Fruit bunch hanging vertically down, the fruit at about 30° to the rachis, about 3 hands each with 1–3 bananas arranged in one row. *Fruits* ripening pale yellowish green, not splitting open, ovules in 2 rows per loculus. Pedicel *c.* 2.5 cm long, the fruit 6–8 cm long, 1.5–1.7 cm diam., straight, cylindrical, angled, contracted at the apex into a short ‘beak’. *Seeds* black, barrel-shaped, *c.* 5 x 3 mm, at the inner end with a large circular white patch, rough with irregular very low tubercles. Male axis black, bract scars *c.* 1.5 cm apart on the same rank. *Male buds* slender, oblong-ovoid, *c.* 22 x 3.3 cm. Unopened bracts white beneath the flowers, rosy purple, slightly darker at the tip, straight, not curling back, glossy. *Male flowers* *c.* 4.3 cm long, compound tepal translucent pale yellowish green but white at the base, apically divided into 3 lobes *c.* 4 mm long, the middle lobe divided into 3 smaller lobes, free tepal *c.* 3 cm long, white and translucent, 3-pointed, stamens 5, pure white, *c.* 3 cm long, anther about 3/4 of the stamen length, style slender, white, style and stigma *c.* 3.5 cm long, longer than the stamens.

Other specimen: Sarawak: Marudi District, Bario, Pa’Lungan C. Geri & Pasen Paran TK1553, 16 Aug 2005. (SAR, SING, SAN, E).

Distribution: Endemic to Borneo, known only from Bario in the Marudi District.

Habitat: Swampy depressions in undisturbed forest at about 1167–1300 m altitude

Vernacular name: Lokok (Kelabit) and Sukar (Kelabit).

Local people informed us that the young unfurled leaves were formerly used as cigarette wrappers. The name ‘lokok’ appears to be a variation of ‘rokok’, the Malay word for cigarette. An elderly woman told us the original Kelabit name is ‘sukar’ because compared with other bananas, the leaves of this species are less liable to split and become tatty. Christensen (2002) refers to the cigarette-wrapper banana of the Kelabits as ‘lukor’. We have sometimes heard ‘lokok’ pronounced as ‘lukor’.

Notes: *Musa lokok* is unusual among Bornean bananas based on the combination of the following characters: it is a small slender banana with a narrowly elliptic leaf about 120–125 x 20–25 cm with an inflorescence hanging vertically down, the male bud is slender and spindle-shaped and



Plate 1: *Musa lokok* Geri & Ng a. Clump showing the pendent inflorescence, b. female inflorescence removed from the pseudostem, c. male flower, d. female flower, e. L.S. of fruit. Photographs FSP Ng

up to 3 cm in diameter, neither the male or female bracts curl back. Based on these characteristics, it resembles *Musa suratii* Argent from the Tenom District, Sabah, which was also recently discovered in Usun Apau, Baram District (S. Julia, *pers. comm.*). Like *M. lokok*, it is a highland species growing at about 1000 m altitude. However, it is distinct from *Musa suratii* in the characters noted in Table 1. Notable differences include the absence of wax from the lower surface of the leaf and the bananas pointing obliquely downwards.

Table 1. Morphological differences between *Musa suratii* and *M. lokok*

	<i>Musa suratii</i>	<i>M. lokok</i>
Petiole length (cm)	16–20	c. 30
Lower leaf surface	Thick white wax	No wax
Basal flowers	Hermaphrodite, with 5 stamens ranging from fully developed with apparently fertile pollen to tiny staminodes Female with 5 small staminodes	Female with 5 small staminodes
Fruit bunch	With 8–10 hands of fruits, bearing 8–10 bananas in two rows in the second hand, reflexed upwards	With 3–5 hands of fruits, bearing 1–7 bananas in each hand, pointing obliquely downwards
Fruit diameter (mm)	8–10	15–17
Seed (mm)	2.5 x 2	5 x 3
Male bract colour	Orange with green tip	Bright purple

The clump that *TK1553* was collected from was somewhat more variable, the leaves were 118–150 x 17–29 cm, the inflorescence had the first one or two bracts sterile and bearing up to 5 hands of bananas with 3–7 bananas per hand.

One population appeared to be a hybrid between *Musa lokok* and *M. textilis* Nees because the male bud was broader, more like that of *M. textilis*, and, in addition, it had a conspicuous green tip to the male bracts.

Acknowledgements

This work was carried out as part of the Traditional Knowledge Documentation Project of Sarawak Biodiversity Center. We thank Datin

Eileen Yen Ee Lee for her strong support in the project and Pasan Paren for his assistance and help in the collection of specimens. We should also like to thank Dr Ruth Kiew for her advice in describing this species.

Reference

Christensen H. 2002 *Ethnobotany of the Iban and the Kelabit*. Forest Department Sarawak, Malaysia and University of Aarhus, Denmark.