NOTE

Musa nagensium var. *hongii* Häkkinen－a New Addition to the Flora of India

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ABSTRACT: *Musa nagensium* var *hongii* Häkkinen reported here as new addition to the Flora of India from Anjaw District of Arunachal Pradesh.

KEY WORDS: Anjaw, Arunachal Pradesh, India, *Musa nagensium*, new record.

INTRODUCTION

While on a plant survey and collection trip to Anjaw District, Arunachal Pradesh the author have collected a *Musa* species. After preliminary morphological study, it was evident that the species having a unique character of mature fruits pointing towards the male bud which is quite rare in other *Musa* species and it leads the species to be *Musa nagensium* Prain a species considered to be almost extinct in wild which was described from Naga Hills by D. Prain in the year 1903 in the Royal Botanic Garden, Calcutta (Now AJCB Indian Botanic Garden, Howrah) based on the plant grown from rootstock collected from the Naga Hills region in the state of Nagaland (Prain, 1904). Detail study revealed that there are certain differences in the male flower bracts as in the present plant is extremely bright yellow to orange with reddish margins and bract apices obtuse and imbricate while in true *M. nagensium* is with flower bracts extremely flame scarlet and bract apices acute and convolute. So later perusal of literature, it became another variety of *Musa nagensium* var. *hongii* Häkkinen which was described by Markku Häkkinen from Yingjiang District of Yunnan Province, China in the year 2008 (Häkkinen, 2008, 2009) and named after Wang Hong from the Xishuangbana Tropical Botanical Garden Herbarium for his excellent contribution to Chinese botany.Later through personal communication final confirmation of the identity of the plant was ascertained by Prof. Markku Häkkinen of University of Helsinki, Finland as *Musa nagensium* var. *hongii* Häkkinen.

Although there is no exclusive taxonomic account of wild *Musa* species, there are eight Musa species reported till now from India (Uma et al., 2001; Pollefeys et al., 2004; Delin and Kress, 2004). *Musa nagensium* var. *nagensium*Häkkinennaturally grows in the state of Nagaland and sympatric with *M. balbisiana* Colla and commonly confused with *M. cheesmanii* Simmonds. The presence of *M. Nagensium* var. *nagensium* was reported from different localities in S.E. Asia without detail description which could not be authenticated later on (Häkkinen, 2008).

Musa nagensium var. *hongii* was reported only from Yingjiang District of Yunnan Province, China. Some unauthenticated reports are also from Myitkiyina District of Myanmar. The present collection of the other variety of *M. nagansium* is not from the same locality where the typical variety of the species was growing in wild and is some 500 km way in a different state i.e. Arunachal Pradesh of Indian territory but in the same phytogeographic zone of North East India. This is the first record of existence of this plant from India. A detail description of the species is provided herewith along with colour photos (Fig. 1) for easy identification of the plant in the wild. Furthermore detail diagnostic keys to the species (after Häkkinen, 2008) found growing the same area where *M.* n*agensium* var. *hongii* is also growing is presented here for easy identification of the species.

Key to the species of *Musa* and varieties allied to *M. nagensium* var. *hongii*

1. Flower bracts extremely flame scarlet; bract apices acute and convolute……..…***M. nagensium* var. *nagensium***
1. Flower bracts extreamly bright yellow to orange with reddish margins; bract apices obtuse and imbricate……2
2. Mature fruit pointing downward toward male …… bud…….***M. nagensium* var. *hongii***
2. Mature fruit pointing upward toward peduncle……...3
3. Pseudostem with underlying c olour brownish red; sap milky; lamina hardly waxy, grayish; seeds flattened……..…***M. cheesmanii***
3. Pseudostem with underlying colour yellowish green; sap watery; lamina without wax, glaucous, seeds globose……..4
4. Male bud broadly ovoid with obtuse apex,bracts imbricate, internally dark crimson, not revolute……..…***M. balbisiana***

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4. Male bud lanceolate with pointed yellowish apex, bracts not imbricate, internally creamy, revolute……*M. acuminata*

TAXONOMIC TREATMENTS

Musa nagensium* var. *hongii Häkkinen in Novon 18(3): 336–339. 2008. Fig. 1

Plant tall, suckering close to parent plant, 20–50 cm, up to 5 suckers, vertically arranged; mature pseudostem up to 11 m tall, up to 25 cm diam. at base, variable appearance with dead brown waxy sheaths, underlying color ivory with large pink-purple blotches, shiny; sap milky. Petiole up to 50 cm, canal margins overlapping, bases winged and clasping the pseudo-stem with corrugated margins; leaves erect, lamina 200 × 65 cm, narrowly elliptic, truncate at apex, adaxially dark green, dull, abaxially silvery, very waxy; leaf bases asymmetric, both sides rounded and auriculate, midrib light green on both sides, with slightly corrugated lamina. Inflorescence arching vertically downward; peduncle to 70 cm, ca. 3 cm in diam., glabrous, light green, waxy; 2 sterile bracts present, persistent at opening of the first female flowers. Female bud lanceolate, ca. 43 × 8 cm, bracts extremely bright yellow to orange with reddish margins and very waxy, bright yellow without wax internally, imbricate, obtuse and lifting one bract at a time, not revolute before falling; basal flowers female, ca. 15 cm; ovary light green, with ovules arranged in 2 rows per locule; compound tepal ca. 4.5 cm with 2 prominently thickened keel, orange, free tepal ca. 4.5 cm, oval with thickened keel, translucent white with orange apex; stamens 5, ca. 3.5 cm, lacking pollen, light green; stigmabrown, ca. 0.8 cm diam.; male bud lanceolate, ca. 25 × 5.5 cm., bracts extremely bright yellow to orange with reddish margins and very waxy, bright yellow without wax internally, imbricate, lifting one bract at a time, not revolute before falling; male flowers on average 12 per bract in 2 rows, falling with bracts; compound tepal ca. 4.6 cm with thickened keel, translucent light green; anthers orange to brown, inserted; stigma light green, ovary arched, light green, without additional pigmentation. Fruit branch compact, with 7 hands and 14 fruits per hand on average, in 2 rows, fingers hanging downward toward the long pendulous rachis; individual fruit ca. 9 × 3.5 cm, slightly curved, pronouncedly ridged, pedicel 3.5 cm, glabrous, fruit apex long pointed, immature fruits peel silvery, very waxy, fruit pulp white, seeds irregularly rounded, ca. 11 × 7 mm.

Flowering and Fruiting : April–October.

Ecology: *Musa nagensium* var. *hongii* is common in the areas like Changwanti near Hawai, along the Hyuliang to Chaglagam road, Nara, above Tidding in Anjaw District, Arunachal Pradesh, India; Yingjiang District of Yunnan Province, China and Myitkyina District, Myanmar. The plant grows in an elevation of 700–1200 m in moist ravines along the rivers.

IUCN Red List category: *Musa nagensium* var. *hongii* Häkkinen is quite abundant in the district of Anjaw, Arunachal Pradesh. Maximum population of the plant was observed by the author on the way to Mataliang from Hyuliang. In the near future there is no threat for the existence of this variety in wild in Anjaw District in India.

Uses: The flowering bud of the plant is used as vegetable by the *Mishimi* tribes of Anjaw district and considered better variety than the other wild edible bananas.

Specimens examined: INDIA, Arunachal Pradesh: Changwanti near Hawai, Anjaw district, 700 m, 22th May 2011, *R. Gogoi 24405* (ARUN); CHINA, Yunnan: Tongbiguan, 800 m, 09th Jan. 2006, *Wang Hong 8385* (Holotype, HITBC).

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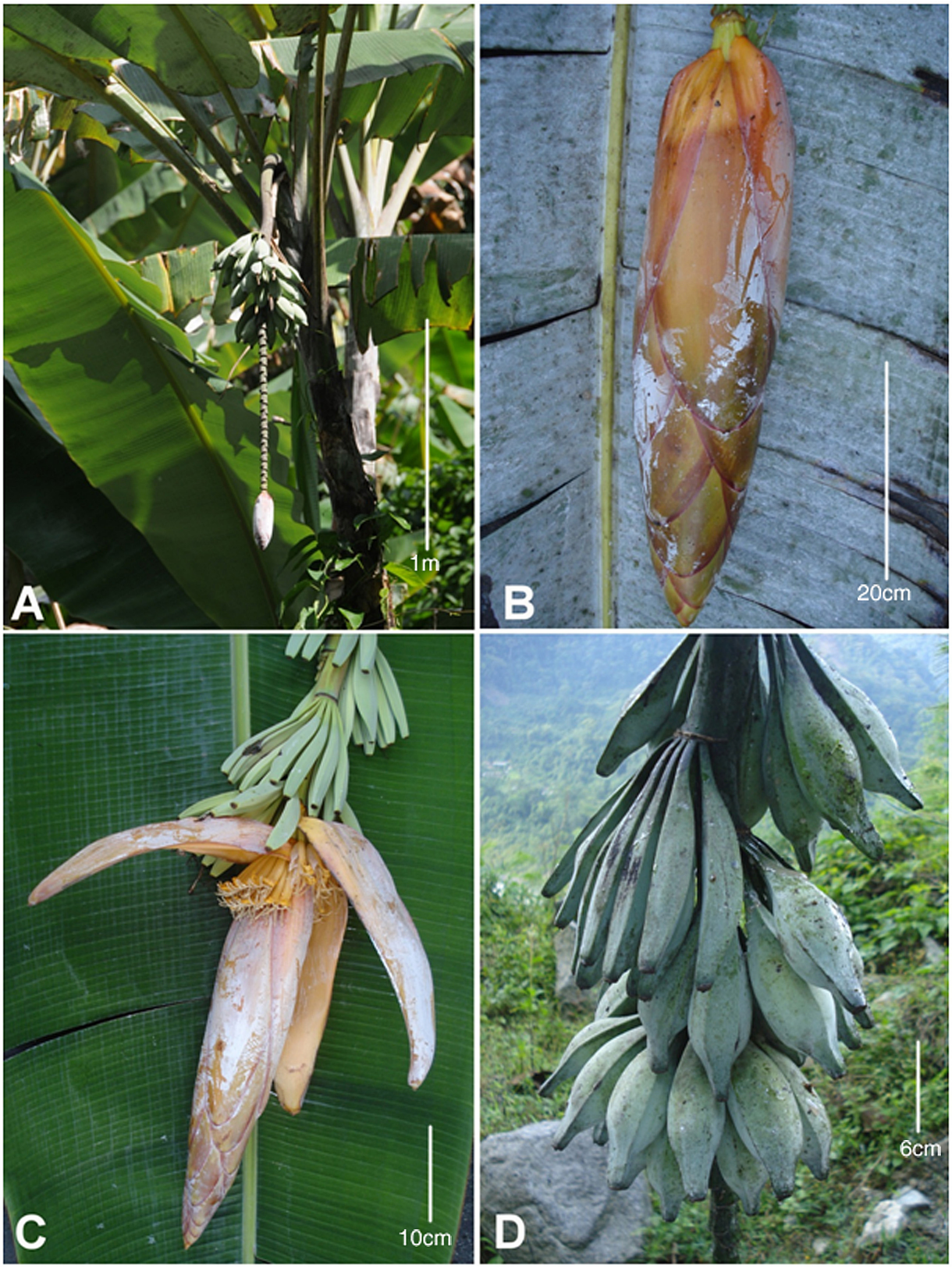


Fig. 1. *Musa nagensium* var. *hongii* Häkkinen A: Habitat. B: Male bud. C: Male bud with hermaphrodite flower. D: Infructescence of the plant. Photos by the Author.

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印度植物誌新見—*Musa nagensium* var. *hongii* Häkkinen

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摘要：本文報導了在印度阿魯納恰爾邦的安嬌縣發現的芭蕉屬新紀錄種*Musa nagensium* var. *hongii*。

關鍵詞：安嬌縣、阿魯納恰爾邦、印度、*Musa nagensium*、新紀錄。

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