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Ethnopharmacological Note

### Use of ripe *Musa sapientum* L. ssp. *sylvestris* fruits for treatment of jaundice

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Musaceae or the banana family plants, consisting of two genera *Musa* and *Ensete* are native to Africa, Asia and Australia. The major consumed *Musa* species in Bangladesh is *Musa sapientum* L. (English: banana, Bengali: kola), which is itself a sub-species of *Musa paradisiaca* L. (English: plantain, Bengali: kach kola). *Musa sapientum* L. has a number of cultivars in Bangladesh, like 'sagar', 'sabri', 'champa', 'martaman', and 'agnishwar'. *Musa sapientum* L. ssp. *sylvestris* is a sub-species, which contains seeds in its fruits and is known in Bangladesh as 'atia kola' or 'bichi kola'. There are a number of traditional medicinal uses of banana (*Musa sapientum* L.) in Bangladesh and other countries of the world. The fruits of the Sabri variety are used along with other plants for treatment of conjunctivitis, swelling of knees, and joint pain (Kamal et al., 2014). Stems of *Musa sapientum* L. are used for enhancing memory in Sagamu, Ogun State, Nigeria (Elufioye et al., 2012). The IFA Nkari people of Ini Local Government Area of Akwa Ibom State, Nigeria use roots of the plant to treat male infertility (Erhabor et al., 2013). The Paroja tribe of Koraput district, India use latex of the plant to treat skin diseases (Pattanaik and Mohapatra, 2010). The Kanuri tribals of northeastern Nigeria use leaves steeped in hot water to treat anemia, yellow fever, and malaria (Ene and Atawodi, 2012). Leaf decoction is used to treat malaria in Aliero Local Government Area, Kebbi, Nigeria (Singh and Singh, 2014). Leaf decoction is used to treat ulcer by the indigenous people of Akwa Ibom State of Nigeria (Ajibesin et al., 2008). The Muslim Maranaos tribe in Iligan City, Mindanao, Philippines use *Musa sapientum* L. var. *compressa* (Blco.) Teod. use leaves to prevent muscle pain and to lower high fever; stems are used to treat cuts and wounds and to treat persons whose vomit contains blood; fruits of *Musa sapientum* L. var. *cinerea* Blco. are used to treat diarrhea (Olowa and Demayo 2015). Fruits of *Musa sapientum* L. are eaten by the Karen tribe of northern Thailand to treat diarrhea (Tangjitman et al., 2015). Fruits are eaten for hypertension in Katsuna State, Nigeria (Yaradua and El-Ghani, 2015). Other ethnomedicinal uses of *Musa sapientum* L. are shown in Table 1. *Musa sapientum* L. ssp. *sylvestris* plant is seldom cultivated in Bangladesh because the fruits, although edible, contain seeds. Plants and ripe fruits are usually fed to cattle and are consumed by humans only during scarcity of normal food. To our knowledge, any traditional medicinal uses of the plant or its various parts including fruits and seeds have not been reported previously. Recently, in the context of an ethnomedicinal survey in Domar Upazila in Nilphamari district, we came across a folk medicinal practitioner (FMP), named Manik, who mentioned that he uses ripe fruits (Figure 1) of this species of banana plant to treat jaundice. In the method described by the FMP, one ripe fruit with skin and seeds was sliced and soaked overnight in one glass of water. The following morning, skin was taken off the sliced fruit pieces, and the fruit pieces squashed with hand in the water during which time the seeds were also taken out and discarded.



Table 1. Other reported ethnomedicinal uses of *Musa sapientum* L.

<i>Musa sapientum</i> L. (sub-species, variety, cultivar)	Ethnomedicinal uses	Reference
<i>Musa sapientum</i> L.	Plant stalks are used to treat fever by the Busaos Kankana-ey people of Barangay Catengan, Besao, Mountain Province, Philippines.	Philippine Institute of Traditional and Alternative Health Care and University of Philippines, 2000
<i>Musa sapientum</i> L.	Fruits are consumed for dysentery; paste of skin of fruits is topically applied to treat warts by the Garo tribe residing in Netrakona district, Bangladesh.	Rahmatullah et al., 2009
<i>Musa sapientum</i> L.	Leaves are used to treat cuts and wounds in Iloilo, Philippines.	Tantiado, 2012
<i>Musa sapientum</i> L.	Ashes of burnt leaves are used to treat eczema in Abeokuta areas of Ogun State, Nigeria.	Erinoso and Aworinde, 2012
<i>Musa sapientum</i> L.	Various tribes of Douala, Cameroon use the plant to treat toothache, stomach ache, intestinal worms, fever, pediculosis, hemorrhoids, typhoid, cholera, and burns.	Emmanuel and Didier, 2012
<i>Musa sapientum</i> L.	Mashed fruit used with few drops lime and water to tone skin by Sahariya tribe of Shivpuri District, Madhya Pradesh, India.	Jatav and Mehta, 2013
<i>Musa sapientum</i> L.	Plant used to treat yellow fever in Gwer East Local Government Area of Benue State, Nigeria.	Ancha et al., 2015
<i>Musa sapientum</i> L.	Leaves are used to treat jaundice in Kano State, Nigeria.	Abubakar et al., 2017

The resulting mix was next taken orally in the form of a sherbet on an empty stomach. This was done for 30 consecutive days. Although any hepatoprotective effect of *Musa sapientum* L. ripe fruits has not been studied, the hepatoprotective effect of aqueous extract of stems of the plant has been reported in carbon tetrachloride intoxicated rats (Dikshit et al., 2011). Thus the fruits also merit potential for further scientific investigations as to their curative effect during hepatic disorders, which are the usual causes of jaundice.

**Keywords:** *Musa sapientum* L. ssp. *Sylvestris*; jaundice

### Declaration of conflict of interest

No conflict of interest associated with this work.

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Figure 1. Fruits of 'atia kola'