

Mantisia Salarkhanii Rahman & Yusuf (Zingiberaceae) - A New Species From Bangladesh

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Abstract. A new species, *Mantisia salarkhanii* Rahman & Yusuf (Zingiberaceae) sp. nov., from Bangladesh is described and illustrated. The species grows in deep shade on rocky stiff hill slopes near streams in Bandarban, a Hill Tract district of Bangladesh. Diagnostic morphological characters from closely similar taxa are discussed. A key to the Bangladesh species of *Mantisia* is presented.

Key words: *Mantisia salarkhanii*, Zingiberaceae, New species, Bangladesh

Introduction

Mantisia Sims., belonging to the family Zingiberaceae, is an Asiatic genus and known to be represented by 3 species in India, Bangladesh, Myanmar and Malaysia (Mabberley 1997). Survey of relevant literature of Sims. (1810), Roxburgh (1810, 1814, 1819, 1820 and 1832), Wallich (1829-34), Baker (1890), Prain (1903), Heinig (1925), Raizada (1941), Sinclair (1956), Rao and Verma (1972), Rahman (1995), Rahman and Yusuf (1996, 1997) showed that the genus *Mantisia* is represented in the flora of Bangladesh with 2 species, *Mantisia saltatoria* Sims. and *M. spathulata* (Roxb.) Schult. Both these species were described from the area of Bangladesh (Chittagong and Sylhet). In the recent years the authors have made an extensive survey through-

out the flora, especially in the eastern part of the country which includes the forests of Sylhet, Chittagong, Cox's Bazar and Hill Tracts districts, for collecting biodiversity specimens. Special attention has been paid to the collection of zingibers. While conducting field trip to the Hill Tracts districts in 1994, we came across a few flowering populations of *Mantisia* having perennial shoots growing in shades on rocky stiff slopes of the hills of Alikadam area in Bandarban. Flowering shoots and rhizomes were collected and grown in the green house of Bangladesh Council of Scientific and Industrial Research, Chittagong. When they flowered in 1996 the inflorescences were found to develop from the base of the mature perennial shoots. The aerial shoots of two other species of *Mantisia* are annual and appear after the development of inflorescences. We have further made two more visits to

Alikadam area of Bandarban district in 1998 and 1999, and a good number of flowering populations of the same type having perennial aerial shoots were found in Guishap Jiri near Thanchi road which is about 3 km east of the previous location. The specimens of *Mantisia* collected from these two localities of Alikadam (Alipahar and Guishap Jiri) were critically examined and compared with other identified specimens of *Mantisia* available at Bangladesh National Herbarium (DACB), Central National Herbarium, Hawrah, India (CAL) and the Herbaria of the Royal Botanic Gardens, Kew (K) and Edinburgh (E) by one of us (MAR) and finally confirmed them as belonging to a new species of *Mantisia*.

It is closer to *Mantisia saltatoria* Sims. for its linear subulate staminodes and 9-ridged fruits but differs for its much longer perennial shoots, glabrous midribs, villous inflorescences, smaller and yellowish-white flowers, hairy petals (at base) and much smaller deciduous bracteoles. On the other hand, *M. spathulata* (Roxb.) Schult. differs from *M. saltatoria* Sims. and *M. salarkhanii* Rahman & Yusuf for its purple-white flowers, spathulate staminodes and 6-ridged fruits.

Therefore, three species of *Mantisia* are being recognized here to be represented in the flora of Bangladesh. *M. saltatoria* is known from Chittagong and Cox's Bazar districts where as *M. spathulata* occurs in Rangamti and Sylhet districts. Our new species *M. salarkhanii* is reported here from Bandarban district.

The new species *Mantisia salarkhanii* Rahman & Yusuf is described here with illustration. A key to the three species of *Mantisia*, occurring in the flora of Bangladesh, is prepared based on their morphological characters.

Following abbreviations are used in the text to denote the herbaria consulted: HCU, Herbarium of Chittagong University; BCSIRH, Herbarium of Bangladesh Council of Scientific and Industrial Research, Chittagong; DACB, an acronym for Bangladesh National Herbarium.

Key to the species of *Mantisia*

1. Aerial shoots annual, 40-60 cm tall; inflorescences appear before development of aerial shoots; leaves ciliolate along nerves on the upper surface; sepals more than 8 mm long; petals purple blue or white 2
- Aerial shoots perennial, 50-170 cm tall; inflorescences develop from the base of mature perennial shoots; leaves glabrous above; sepals less than 7 mm; petals yellowish white **M. salarkhanii**
2. Inflorescences glabrous, peduncles subtended by 3 glabrous sheaths; corolla tube long, 2 - 2.5 cm, petals purple blue; staminodes linear, 17x1 mm; labellum long, 14 mm; anther wings upward **M. sultatoria**
- Inflorescences villous, peduncles subtended by 1 or 2 tomentose sheaths; corolla tube short, up to 1.5 cm, petals whitish; staminodes spathulate, 6-7.5 x 3 mm; labellum short, up to 10 mm; anther wings down ward **M. spathulata**

***Mantisia salarkhanii* Rahman & Yusuf, sp. nov.** (Fig. 1 and Fig. 2)

Diagnosis: *Affinis M. saltatoria* Sims. *Staminodiis linearibus subulatis et fructibus 9-porcatis sed surculis perennibus et multo longioribus, costis glabris, inflorescentiis villosis, floribus minoribus, flavido-albis et*

villosis, floribus minoribus, flavido-albis et bracteolis multo minoribus, caducis differt.

Typus: Bangladesh, Bandarban district, Alikadam, near Thanchi road, Guishap Jiri, 3.5.98, *Rahman et al.* 2891 (HCU).



Fig 1. *Mantisia salarkhanii* sp. nov. Habit of the plant (photograph)

Description: Aerial shoots perennial, 0.5–1.7 m tall. Leaves sessile, lanceolate, long caudate, 15–20 x 2–3.2 cm, glabrous. Inflorescences white, lax, villous, 15–35 cm long; peduncles subtended by 3–4 oblong, tomentose sheaths. Bracts white, oblong to ovate, lower most one largest, gradually smaller upwards, 7–26 mm long and 5–16 mm broad, lower bracts hairy at base and upper bracts glabrous. Bracteoles white, glabrous, ovate to sub orbicular, 5–8 x 3–8 mm, deciduous. Calyx campanulate, ca. 7 mm long, white, glabrous, 3-lobed, tips rounded. Corolla tube ca. 11 mm, hairy; petals 3, yellowish white; upper lobes

erect, navicular, 5x4 mm, hairy at base; lower petals ovate, 4.5x4 mm, reflexed, tips rounded, glabrous. Staminodes linear, subulate, ca. 14x0.75 mm, white, attached to the filaments, about 6 mm above corolla mouth. Labellum obovate, 6–8 x 3.5–4 mm, yellow, base cuneate and winged; wings semi-lunar, 1–1.5 mm, white. Epigynous glands linear, 2.5 mm, free. Stigmas turbinate. Ovary oblong, ca. 3x2 mm, ridged, white. Fruits sub-globose, ca. 12x12 mm, 9-ridged, white with persistent calyx at apices. Seeds many, fusiform, ca. 3x1 mm, villous; aril attached to the base, white, lacerate.

Specimens examined: Bandarban district: Alikadam, Alipahar, 21.4.1994, *M. Yusuf* and *M.A. Rahman* 878 a–d (BCSIRH) and 878e (HCU); Alikadam, Thanchi road, Guishap Jiri, 3.5.1998, *M. A. Rahman et al.* 2891a–j (ABDN, BCSIRH, DACB, E, HCU & K).

Distribution: South eastern part of Bangladesh, Alikadam area in Bandarban district (one of the Hill Tracts districts of Bangladesh). Endemic. Indo-Chinese element.

Ecology: It grows in deep shades on rocky stiff hill slopes near streams. Alt. 500 m.

Phenology: Flowering in March–April. Fruiting in April–May.

Status: It is known from the type locality and nearby area within 5 km (in and around type locality only). A good number of populations were seen. It can be graded as LR (cd) category (IUCN, 1994).

Etymology: It is named in honour of Professor M. Salar Khan, founder of Bangladesh National Herbarium, for his outstanding contribution to the Flora of

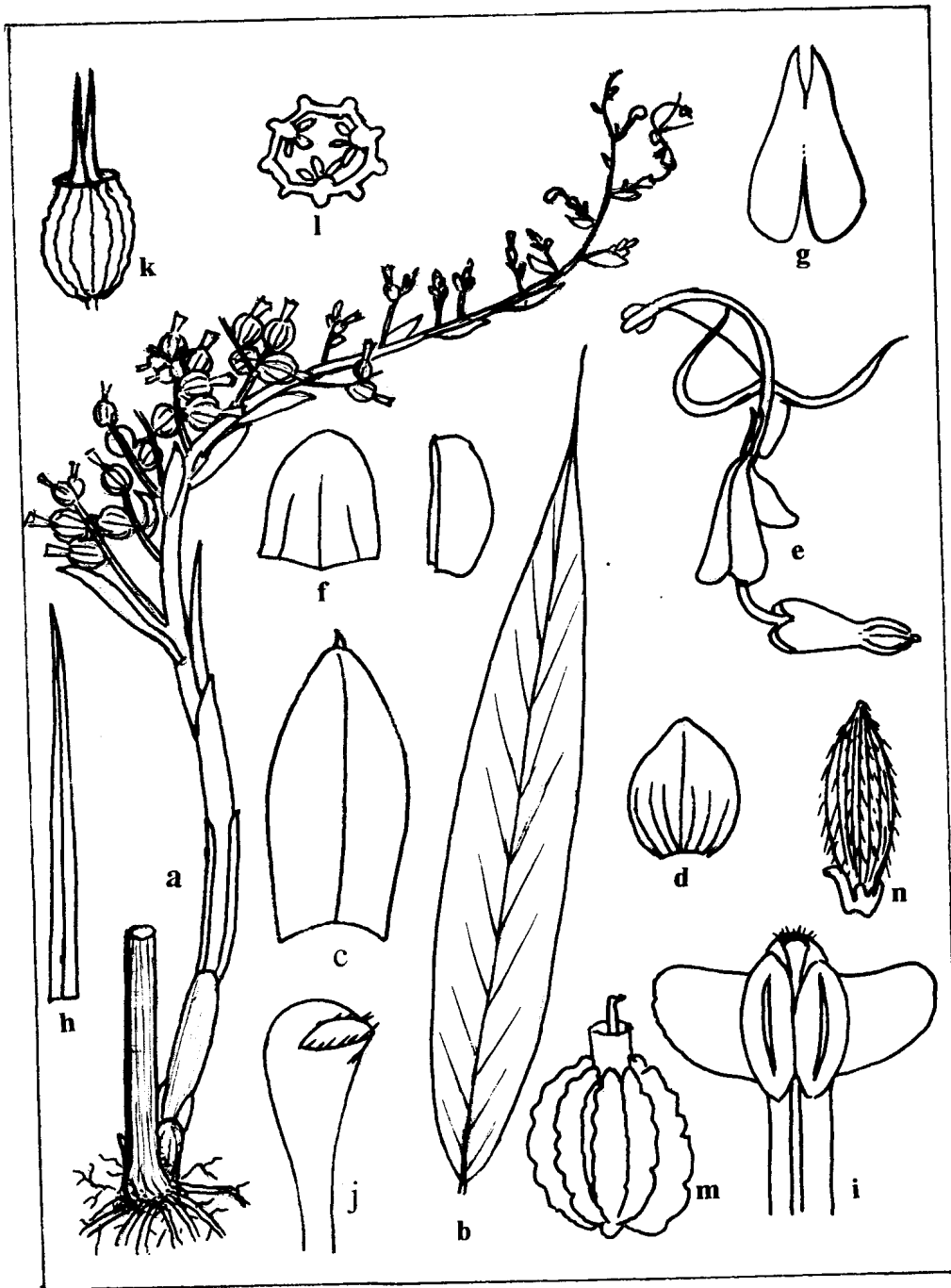


Fig 2. *Mantisia salarkhanii* sp. nov. a) inflorescence x .5, b) leaf x.5, c) lowermost bract x 1, d) bracteole x 4, e) flower x 2, f) petal x 4, g) labellum x 4, h) staminode x 4, i) stamen x 8, j) stigma x 20, k) ovary x 6, l) ovary (T.S.) x 8, m) fruit x 2, n) seed x 10.

Bangladesh and in the field of Plant Taxonomy.

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منتسيا صرار كانياي (من الفصيلة الزنجيلية) نوع جديد من بنقلادش

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الملخص : يتضمن هذا البحث نتائج دراسة على جنس المنتيسيا *Mantisia* في بنقلادش ، ومن خلالها تم إكتشاف نوع جديد لأول مرة اطلق عليه الاسم العلمى *Mantisia salarkhanii* Rahman & Yusuf. وهذا الاسم أخذ من اسم مؤسس المعشبة الوطنية بدكا الأستاذ الدكتور صرار خان تخليداً لجهوده العلمية المتميزة . النوع الجديد ينتمي للفصيلة الزنجيلية ويعيش في الأماكن المظلمة بالقرب من منابع المياه بمرتفعات بندريان . دعمت هذه الدراسة بالخصائص المهمة مرفولوجياً لأنواع القرية من هذا النوع وتم مناقشتها وتدعيم هذا البحث برسم إيضاحي لهذا النوع الجديد ، بالإضافة إلى بناء مفتاح تحليلي لأنواع جنس المنتيسيا في بنقلادش والتي حصرت بثلاث أنواع .