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Cover: A gravid praying mantis just before she laid her ootheca—digital art on procreate. © Aakanksha Komanduri.



New distribution record of *Alstonia sebusii* (Van Heurck & Müll. Arg.) Monach. from Manipur, India

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Abstract: The genus *Alstonia* belonging to the Apocynaceae family is represented by 44 species distributed worldwide. In India, the taxon is represented by eight species, reported from Andaman & Nicobar Islands, Western Ghats, Eastern Ghats, western Himalaya, and northeastern regions. The present study reported the occurrence of *Alstonia sebusii* from Pudunamei village, Mao, a new addition to the flora of Manipur. Detailed morphological descriptions and measurements were recorded based on living plant specimens. The plant is locally called 'Topfiira Koso Pro' having ethno-medicinal properties and widely been used by local people of the state to treat various ailments. The plant is rare and found to occur at specific location at Pudunamei village.

Keywords: New addition, rare, Topfiira Koso Pro, traditional medicine.

The genus *Alstonia* R.Br. is an important timber producing taxon (Soerianegara & Lemmaens 1993; Sidiyasa 1998) described by Robert Brown (1810) and named in honor of Charles Alston, a Scottish physician and professor of botany at the University of Edinburgh. *Alstonia* is the largest genus in the subtribe Alstoniinae of tribe Plumerieae of the family Apocynaceae represented by 44 species distributed worldwide (POWO 2023), out of which eight species are reported from India (Datta & Nayar 2021; BSI 2023). The genus is distributed in central America, tropical Africa, and from the Himalaya and China to New South Wales in Australia,

and has its centre of diversity in the Malaysian region (Sidiyasa 1998). Some of the species of *Alstonia* provide important timber for commerce, and many species were used in local traditional medicines (Sidiyasa 1998).

During the field exploration in Pudunamei-Mao, Senapati District, Manipur, the author came across an interesting plant species of *Alstonia*. On further investigation and critical analysis of the plant specimen with available literature (Hooker 1880–1882; Kanjilal et al. 1939; Monachino 1949; Sidiyasa 1998; Singh et al. 2000; Eshuo & Chaturvedi 2011; Mao & Gogoi 2016; Datta & Nayar 2021; Eshuo 2023; Eshuo & Lokho 2023) and herbaria photograph images from <https://powo.science.kew.org>, the species is identified as *Alstonia sebusii* (Van Heurck & Müll. Arg.) Monach., hitherto unknown from Manipur. The occurrence of *A. sebusii* is an addition to the flora of Manipur as well as an extended distribution range from Sikkim through Assam to Manipur in the Indo-Burma region. This plant has ethno-medicinal properties and has been used in treating various ailments like urinary tract infection, agalactorrhea, hypertension, stomach upset by local people of Mao Naga tribe of Manipur State.

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MATERIALS AND METHODS

The collection, pressing and preparation of herbarium specimens were done as per the conventional herbarium techniques (Jain & Rao 1976) and the herbarium specimen was deposited at Herbarium, Botany Department of Dhanamanjuri College of Science (Accession No.: 1.2020), Imphal and at Herbarium, Botanical Survey of India, Eastern Regional Centre (Accession No.: 101280), Shillong for future reference. The live plant photos were taken with the help of

Sony SLT-A58 and Canon SX120 digital camera. All the morphological descriptions, measurements were based on observation of the live plant specimens in the field.

TAXONOMIC TREATMENT

Alstonia sebusii (Van Heurck & Müll. Arg.) Monach., Pacific Sci. 3: 157. 1949; Datta, A. & Nayar, M.P., Fasc. Fl. India (P.V. Prasanna ed.) 30: 31. 2021. *Blaberopus sebusii* Van Heurck & Müll. Arg. in Van Heurck, Observ. Bot. 2: 188. 1871. (Image 1 & 2).



Image 1. *Alstonia sebusii* (Van Heurck & Müll. Arg.) Monach. a—habit | b—flower twig showing the front view of a flower | c—flower twig showing corolla tube | d—fruits | e—stem with colleters and lenticels. © Kazuhru Eshuo.

Trees 2–4 m tall, bark glabrous, young stem lenticellate, grey to yellowish-brown, branches terete. Leaves in 2–4 whorls, leaves elliptic or ovate-elliptic 12–18 x 3–5 cm, glabrous or puberulous, coriaceous, lateral veins 65–80 pairs, stipules dry and scaly, petioles 1–2.5 cm long. Inflorescence cymose, terminal, peduncles 1–2.5 cm long; flower creamy white, 6–7

mm in diameter. Calyx imbricates, connate at base, glabrous, persistent; corolla pink or pinkish-red, tube 8–10 mm long, widened above the middle, indumentum at the mouth of the tube, corolla tube, corolla lobes, lobes triangular, 3–4 x 3–4 mm, epipetalous, basifixed. Ovary ovoid, glabrous, carpels two, style 4 mm long, stigma pagoda like. Follicles in pair, up to 9 cm long, split

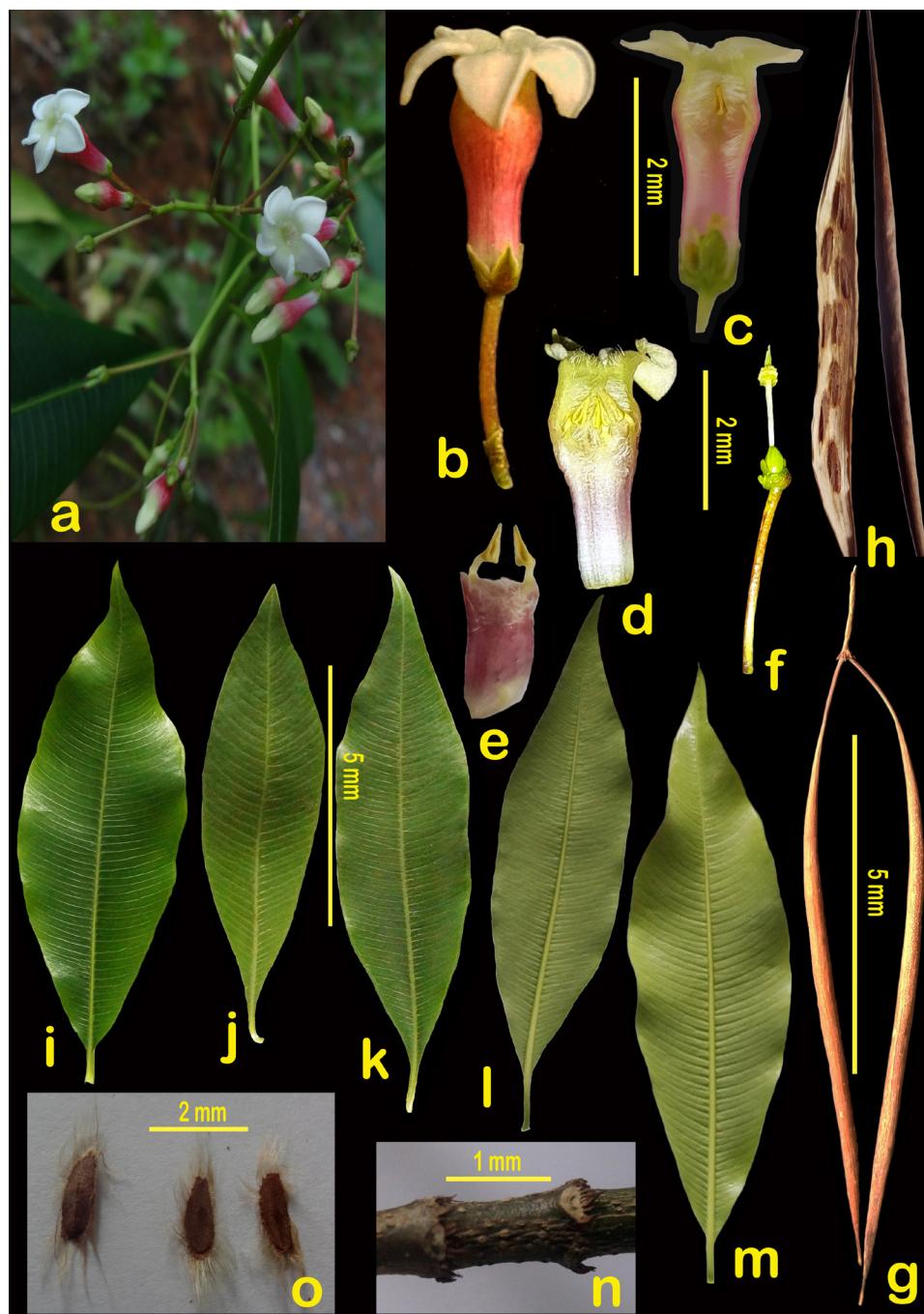


Image 2. *Alstonia sebusii* (Van Heurck & Müll. Arg.) Monach: a—flowering twig | b—single flower side view | c-d—L.S. of flower | e—stamens | f—gynoecium showing ovary, pagoda —stigma and style | g—mature fruit follicles | h—open follicle showing seeds | i-k—leaves dorsal view | l-m—leaves ventral view | n—enlarged view of colleters | o—seeds. © Kazuhrii Eshuo.

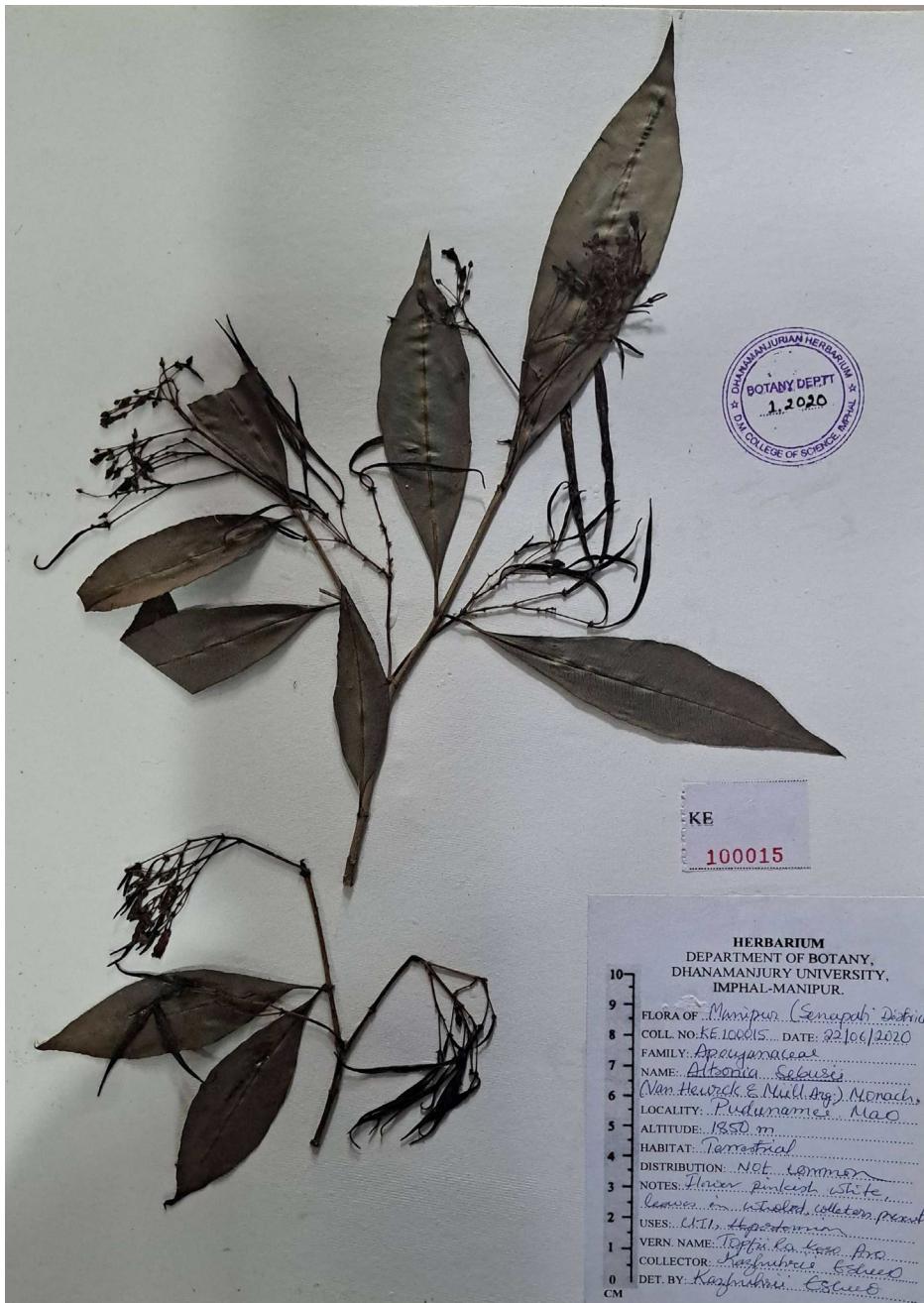


Image 3. *Alstonia sebusii* (Van Heurck & Müll. Arg.) Monach. herbarium specimen submitted to the herbarium, Botany Deartment, Dhanamanjuri College of Science, Imphal, Manipur.

longitudinal. Seed dry, flattened, both ends rounded, hairy, 8 x 3 mm in size.

Flowering: Almost round the year.

Fruiting: June–January.

Specimen examined: India: Manipur: Pudunamei: KE 100015: 1,650–1,800 m: 25.314°N & 94.092°E (Image 3).

Ecology: Plants grow along with other herbs, shrubs or trees in the wild and home garden ornamental plants for medicinal usage.

Distribution: India (Assam, Sikkim, Manipur [present report]), Bhutan, China, Myanmar.

Medicinal Uses

The people of Mao especially Pudunamei villagers have been using *Alstonia sebusii* (Locally called 'Topfiira koso pro') for treating urinary problems, hypertension, stomach upset, agalactorrhea—a condition where a mother fails to produce breast milk after giving birth.

A woman who suffers agalactorrhea or insufficient milk syndrome was given this plant decoction believing that latex produced by this plant can help in milk production for the mother. The plant is rare and found to occur at specific locations believing by locals that it is a 'gift from gods' to heal and cure various ailments. In recent days, a few people have started planting this plant in their home garden for their ethno-medicinal usage and also as an ornamental plant because of its foliage beauty and flowers that bloom almost throughout the year. Out of the various ailments mentioned, village people mostly used this plant to treat urinary tract infection problems. There is no previous record on the traditional uses of *A. sebusii* by any other researchers till date (Mao 1993, 1999; Lokho & Narasimhan 2013). This is the first report on the use of *A. sebusii* plant in the ethnomedicine by the Mao Naga tribe of Manipur.

Preparation and part used: About 4–6 fresh leaves are taken, washed, cut into two to three pieces and boiled in 100 ml of water. The decoction is taken orally to relieve irritation and difficulty in urination problems, hypertension, stomach upset and agalactorrhea or insufficient milk syndrome lactating mother whose breast milk fails to produce or the volume of breast milk production is less after child birth.

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