

New floral addition: *Asystasia gangetica* (Acanthaceae) in Arunachal Pradesh, India

Asystasia gangetica is a perennial herb with quadrangular stems and simple blades. It can grow 1–3 m in height and has bisexual, zygomorphic flowers on axillary branches. The outermost part is green, while the sepals are lanceolate. The inner part is asymmetrically funnel-shaped, light yellow or pale violet, and has glandular hairs. The stamens and pistil are inserted on the floral tube. After pollination, it produces capsules, which turn light brown and contain 2–4 light brown seeds (Acevedo-Rodríguez 2005).

Asystasia gangetica, also known as Chinese Violet or Ganges Primrose, is a beautiful, quickly growing, perennial herbaceous plant that is native to tropical Asia, Arabia, and Africa (Suzuki et al. 2019). The species was introduced to tropical areas of the North, Central, and South America, Hawaii, the West Indies, and Australia, where it has



Asystasia gangetica. ©Huidrom Bablin Singh.

become naturalized (Josekuty et al. 2002; Hsu et al. 2005; Burg et al. 2012). C.L. Blume (1826) first described the genus *Asystasia*, which stands

for consistency referring to abnormalities of the corolla in the family Acanthaceae, in 1826. The Ganges River in India, where it is thought to

occur, is where the name '*gangetica*' originated. The most widespread species in the genus, *A. gangetica*, has a range of flower hues, including white, yellow, and purple with blotched patterns.

Because of its remarkable ability to thrive in climatic conditions, especially in warmer regions, this species has been listed as an invasive plant in countries like Cuba, Puerto Rico, and Hawaii (Acevedo-Rodríguez 2005). This species spreads quickly in any habitat, including disturbed areas, semi-waterlogged areas, and cultivated areas. By developing a dense ground cover, it also promotes competition with the natural species (Varnham 2006). This note provides an overview of *Asystasia gangetica*'s distribution in PTR, Pakke Kessang, Arunachal Pradesh, India.

On 10 February 2022, about 0124 h, the lead author made an unusual finding while undertaking a floristic survey of Pakke Tiger Reserve (PTR) in Pakke Kessang, Arunachal Pradesh. The author came upon a group of 3–5 individuals of *Asystasia gangetica* around the reserve's boundary, and saw that the species were increasing in the drainage region close by the roadway, near the paddy cultivation of human settlements. On this location, various spreading plants together occupied approx. 5–10% of the ground cover across an area of 2 m² in sandy loam soil at the border of a tiny drainage channel. The vegetation there consisted of *Mikania micrantha*, *Ageratum conyzoides*, *Chromolaena odorata*, *Datura*

metel, *Amaranthus viridis*, and *Scoparis dulcis*, with *Oxalis corniculata* common in the understory. The elevation of this precise site was 125 m, and its coordinates were 26.9409 N, 92.9954 E.

Even though the author noted that this species is more prevalent along roadsides and in drains than in forested areas. It appears that the building of new roads may be a crucial factor in the potential expansion of this species. The phenology of this plant occurs from February to April in PTR, although other geographical places may witness distinct phenological occurrences (Dhruvan et al. 2019; Debnath et al. 2016).

This might be due to geographical variance and climate change. Climate change may have contributed to the species distribution, despite the fact that it is considered an invasive species in many countries. *Asystasia gangetica* is not regarded as an invasive species in India, nonetheless. The majority of the documentation for these species comes from southern India; the northeastern part of India has seen very few studies.

Since GBIF, iNaturalist, or any scientific studies have not yet verified their presence in the eastern Himalayan state. This study unambiguously confirms the distribution of *Asystasia gangetica* in the eastern Himalayan state of Arunachal Pradesh, adding to the region's flora. Additionally, a colour image of the species is shown to make identification simple.

References

Acevedo-Rodríguez, P. (2005). Vines and climbing plants of Puerto Rico and the Virgin Islands. *Contributions from the United States National Herbarium* 51: 1–483.

Blume, C.L. (1826). *Bijdragen tot de flora van Nederlandsch Indië 14: Ter Lands Drukkerij, Batavia*, 796 pp.

Burg, W.J.V.D., J.D. Freitas, A.O. Debrot & L.A.P. Lotz (2012). *Naturalised and invasive alien plant species in the Caribbean Netherlands: status, distribution, threats, priorities and recommendations : report of a joint Imares/Carmabi/PRI project financed by the Dutch Ministry of Economic Affairs, Agriculture & Innovation.* (Report / IMARES Wageningen UR; No. C185/11). Plant Research International. <https://edepot.wur.nl/198282>

Debnath, B., D. Sarma, C. Paul & A. Debnath (2016). New distributional records for the flora of Tripura, India and their ethno-medicinal uses. *Bioscience Discovery* 7(2): 116–120.

Dhruvan, T., A.G. Pandurangan & N. Mohanan (2019). *Asystasia gangetica* var. *krishnae* (Acanthaceae): a new variety from Kerala, India. *Rheedea* 29(2): 174–177.

Hsu, T.W., T.Y. Chiang & J.J. Peng (2005). *Asystasia gangetica* (L.) T. Anderson subsp. *micrantha* (Nees) Ensermu (Acanthaceae), a newly naturalized plant in Taiwan. *Taiwania* 50(2): 117–122.

Josekutty, P.C., E.E. Wakuk & M.J. Joseph (2002). Invasive/weedy angiosperms in Kosrae, Federated States of Micronesia. *Micronesica Supplement* 6: 61–65.

Suzuki, M., M.A. Chozin, A. Iwasaki, K. Suenaga & H. Kato-Noguchi (2019). Phytotoxic activity of Chinese violet (*Asystasia gangetica* (L.) T. Anderson) and two phytotoxic substances. *Weed Biology and Management* 19(1): 3–8.

Varnham, K. (2006). Non-native species in UK Overseas Territories: a review. JNCC Report No. 372, JNCC, Peterborough, UK.

Huidrom Bablin Singh¹ & Bhupendra Singh Adhikari²

^{1&2} Wildlife Institute of India, Chandrabani, Dehradun, Uttarakhand 248001, India.

Email: ¹bablinhuidrom50@gmail.com (corresponding author)

Citation: Singh, H.B. & B.S. Adhikari (2024). New floral addition: *Asystasia gangetica* (Acanthaceae) in Arunachal Pradesh, India. *Plantasia* #36, In: *Zoo's Print* 39(3): 14–16.