



NOTA

New distributional record of *Henckelia monantha* (Gesneriaceae) from India

Nuevo registro distribucional de *Henckelia monantha* (Gesneriaceae) para India

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ABSTRACT

Henckelia monantha only known from China so far is newly recorded for the Flora of India from Arunachal Pradesh. The species is close to *Henckelia briggsioides* but can be differentiated by its size of the calyx tube as well as the presence and absence of ovary indumentum. Detailed description of *H. monantha*, live plant photographs and ecology are presented here.

Keywords: Geographic distribution; Himalaya; Northeast India; taxonomy; flora of India.

RESUMEN

Henckelia monantha, hasta ahora sólo conocida en China, se ha registrado por primera vez para la Flora de la India, en Arunachal Pradesh. La especie es cercana a *Henckelia briggsioides*, pero ambas se pueden diferenciar por el tamaño del tubo del cáliz, así como por la presencia y ausencia de indumento en el ovario. Se presenta una descripción detallada de *H. monantha*, fotografías de la planta viva y su ecología.

Palabras clave: Distribución geográfica; flora de India; Himalaya; Noreste de India; taxonomía.

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INTRODUCTION

The genus *Henckelia* Spreng. with 79 species, is distributed in Sri Lanka, South and Northeast India, Nepal, Bhutan, S China, N Vietnam, N Laos and N Thailand (vide Gesneriaceae Resource Centre, Royal Botanic Gardens, Edinburgh). In India, there are basically two groups of species in *Henckelia*, corresponding to species previously belonging to *Chirita* sect. *Chirita* in the northeast and those of *Henckelia* sect. *Henckelia* in southern India. The species of Northeast India along with the others found in Sri Lanka formerly attributed to *Chirita* sect. *Chirita* (Moller *et al.*, 2017) are characterized by caulescent habit, leaves in whorls of 2 or 3, and orthocarpic capsules dehiscing along both the upper and lower sutures (Wood, 1974; Moller *et al.*, 2017). *Henckelia* Spreng. is the largest genus of Gesneriaceae in India, so far it is represented by 41 species (Vide GRC RBGE), of which, 24 species occurs in Northeast India (Sinha & Dutta, 2016; Krishna & Lakshminarasimhan, 2018; Borah *et al.*, 2019; Kanthraj *et al.*, 2020, 2023; Taram *et al.*, 2020, 2021, 2022, 2024; Maity 2024) and 16 species in South India (Janeesha & Nampy, 2020; Mathew *et al.*, 2022). The primary goal of this study was to explore and document the diversity of the genus *Henckelia* in Arunachal Pradesh, to identify and record any new or previously unreported species of *Henckelia* in India, in order to contribute to the taxonomic and botanical knowledge of Gesneriaceae in the region.

MATERIALS AND METHODS

While conducting routine botanical explorations for collection of Gesneriaceae in Siang valley of Arunachal Pradesh we encountered an interesting specimen of *Henckelia* under a waterfall. After comparison with all the species found in India and neighboring regions using relevant literature (Wood, 1974; Wang *et al.*, 1998; Ranasinghe *et al.*, 2016; Sinha & Datta, 2016; Sirimongkol, 2020), it is identified as *Henckelia monantha* (W.T. Wang) D.J. Middleton & Mich. Möller, a new record for India and is reported here. Herbarium specimens were prepared following standard methods (Jain & Rao, 1977) and deposited in ASSAM. Morphological observation and measurement of floral parts were carried out from fresh samples using a Stereo microscope (Stemi 508, Carl Zeiss) and photographed using a digital camera (Nikon D3300).

RESULTS

Taxonomy

Henckelia monantha (W.T. Wang) D.J. Middleton & Mich. Möller.

Taxon 60(3): 776. 2011. (Fig. 1)

Basionym: *Chirita monantha* W.T. Wang, Bull. Bot. Res.,
Harbin 2 (4): 53 (1982)

Perennials, acaulescent rhizomatous herb, internodes inconspicuous. Leaves basal, opposite; petiole 2–7.5 cm long; leaf blade elliptic to elliptic-ovate or elliptic-obovate, 8–20 × 6–10 cm, eglandular pubescent, base oblique, rounded to subcordate, margin dentate to serrate, apex obtuse; lateral veins 5–8 pairs, opposite to subopposite, conspicuous. Cymes 1-flowered axillary; peduncle 2–4 cm long, pubescent; bracts 2, free, lanceolate to linear, 2.5–3 × 0.3–0.5 mm, puberulent, margin entire, apex acute. Pedicel 1.3–3 cm long, pubescent. Calyx thick, 2–3 cm long, 5-lobed; tube 1–1.4 cm long; lobes equal, triangular-lanceolate, 1.2–2 cm long, outside sparsely puberulent, inside glabrous, margin entire, apex subulate-acuminate. Corolla purplish white, 4.5–5.6 cm long, outside pubescent, inside glabrous; tube narrowly funnelform, 3–4 cm × 1–1.5 cm, distinctly 2 lipped, throat yellow; lobes purple, upper lobes 1.3–2 cm × 2–2.3; lower lobes 1.6–2.3 cm × 1.7–2 cm. Stamens geniculate, filaments c. 9 mm long, glandular puberulent; anthers fused by entire adaxial surfaces, c. 3 mm long, glabrous; staminodes 3, 2 lateral c. 6 mm long, central c. 1 mm long. Pistil 3–4 cm long, sparsely glandular puberulent; ovary c. 1.5 cm long, style 1.5–3 cm long. Stigma flabellate, c. 3 mm, 2-lobed. Fruit and seeds unknown.

Flowering and fruiting.— April–June.

Habitat and ecology.— The species is found growing on a vertical rock below a waterfall in association with *Begonia oyuniae* Taram & N. Krishna. (Begoniaceae), *Impatiens drepanophora* Hook.f., *Impatiens arguta* Hook.f. & Thomson (Balsaminaceae), *Begonia kekarmonyingsensis* Taram, D. Borah & M. Hughes (Begoniaceae), *Impatiens siangensis* Gogoi (Balsaminaceae), *Pilea umbrosa* Blume (Urticaceae), *Elatostema dissectum* Wedd. (Urticaceae), and other plant species.

Distribution.— China, India (Arunachal Pradesh).

Specimen examined.— **INDIA.** Arunachal Pradesh, Siang district, Pangin, N28°20.071', E095°07.291' around 500 m asl, 19-III-2024, *O.Taku* 2127 (TOSEHIM); **CHINA.** Hunan, Sangzhi, 13-VII-1975, *Bing-Guai Li* & *Shao-bin Wan* 750246 (Photo of Holotype: E00087415!).

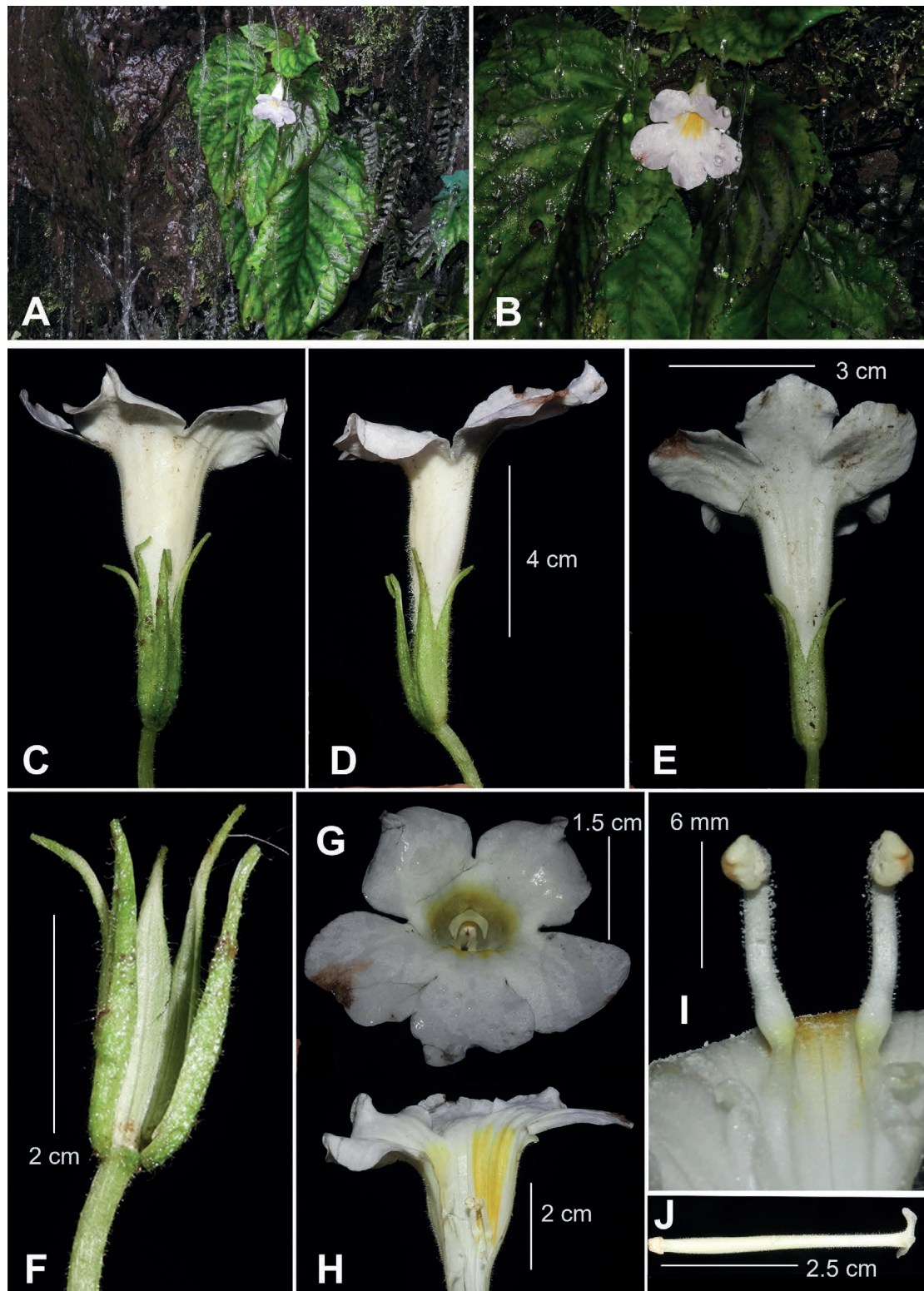


Fig. 1. *Henckelia monantha*. A-B) Habitat and habit. C-E) Flower side view. F) Calyx. G) Front view of corolla. H) Dissected corolla. I) Stamens. J) Pistil.

Fig. 1. *Henckelia monantha*. A-B) Hábitat y hábito. C-E) Vista lateral de la flor. F) Cáliz. G) Vista frontal de la corola. H) Corola disecada. I) Estambres. J) Pistilo.

DISCUSSION

Chirita monantha was described by WT Wang in 1982 on collections made by Bing-Guai Li & Shao-bin Wan on 1975 from Sangzhi, Hunan, China. Our collection differs from the Chinese specimen in having a longer calyx, both in terms of lobes and tube. The leaves are glabrescent (vs. pubescent in Chinese population). The population we discovered is situated directly within a waterfall, thus experiencing a constant flush of water, and hence the hairs might have been washed off.

Henckelia monantha is very close to *H. briggsoides*. Both the species are described by WT Wang in the same publication, however they are separated by the length of the calyx tube (less than 5 mm long in *H. briggsoides* and more than 5 mm long in *H. monantha*) as well as presence and absence of indumentum in ovary (glabrous in *H. briggsoides* and puberulent in *H. monantha*). Close observation and a detailed study might reveal both to be the same.

Among the species growing in India, this species is superficially similar to *H. speciosa*, the brown hairs on the calyx and the long petiolate leaves of *H. speciosa* distinguish it from *H. monantha*.

This collection represents its first record from India.

With the addition of *H. monantha* (W.T. Wang) D.J. Middleton & Mich. Möller, resurrection of *H. collegii-sancti-thomasi* A. Joe, D. Borah, Taram & Sandhya (Kanthraj *et al.* 2023), synonymization of *H. dasii* Taram, D. Borah, R. Kr. Singh & Tag under *H. peduncularis* (B.L. Burtt) D.J. Middleton & Mich. Möller (Maity *et al.*, 2024), the total number of *Henckelia* in NE India stands at 25.

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CONFLICT OF INTEREST

The authors declare that they have no conflicts of interest.

REFERENCES

- Borah, D., Taram, M., Joe, A. & Neelamkavil, S. V. (2019). *Henckelia collegii-sancti-thomasi*: a new species of *Henckelia* (Gesneriaceae) from Northeastern India. *Phytotaxa* 415 (4): 247-251. <https://doi.org/10.11646/phytotaxa.415.4.10>

- Jain, S. K. & Rao, R. R. (1977). A Handbook of Field and Herbarium Methods. Today's & Tomorrow's Printer and Publishers.
- Janeesha, A. P. & Nampy, S. (2020). A taxonomic revision of *Henckelia* (Gesneriaceae) in South India with a new species, one new combination and seven lectotypifications. *Rheedea* 30 (1): 48-95. <https://dx.doi.org/10.22244/rheedea.2020.30.01.03>
- Kanthraj, A. S., Rana, T. S. & Nair, K. N. (2020). *Henckelia umbellata* (Gesneriaceae), a new species from the eastern Himalaya of India. *Rheedea* 30 (1): 143-149. <https://dx.doi.org/10.22244/rheedea.2020.30.01.08>
- Kanthraj, A. S., Rana, T. S., Nair, K. N. & Tiwari, A. (2023). Taxonomic reappraisal of *Henckelia hookeri* and *H. collegii-sancti-thomasi* (Gesneriaceae): two little known endemic species of the Eastern Himalaya in India. *Kew Bulletin* 78 (2): 1-16. <http://dx.doi.org/10.1007/s12225-023-10090-3>
- Krishna, G. & Lakshminarasimhan, P. (2018). A new species of *Henckelia* (Gesneriaceae) from Arunachal Pradesh, India. *Taiwania* 63 (4): 397-401. <https://doi.org/10.6165/tai.2018.63.397>
- Maity, R., Chowlu, K. & Dash, S. S. (2024). The current status of *Henckelia peduncularis* (Gesneriaceae): Taxonomy, typification, distribution and IUCN Red List assessment. *Phytotaxa* 644 (1): 027-034. <https://doi.org/10.11646/phytotaxa.644.1.4>
- Mathew, J., Pichan, S., Raju, S., Sarojini, U. S. & Madhavan, R. (2022). *Henckelia viridiflora* (Gesneriaceae), a new species from the South Western Ghats, India. *Annales Botanici Fennici* 59 (1): 143-147. <https://doi.org/10.5735/085.059.0121>
- Moller, M., Nampy, S., Janeesha, M. & Weber, A. (2017). The Gesneriaceae of India: consequences of updated generic concepts and new family classification. *Rheedea* 27 (1): 23-41. <https://doi.org/10.22244/rheedea.2017.27.1.5>
- Ranasinghe, S., Milne, R., Jayasekara, R., Rubasinghe, S. & Möller, M. (2016). *Henckelia wijesundarae* (Gesneriaceae), a new endemic species from Sri Lanka, and lectotypification of *Chirita walkerae* and *C. walkerae* var. *parviflora*. *Willdenowia* 46 (2): 213-224. <http://dx.doi.org/10.3372/wi.46.46202>
- Sinha, B. K. & Datta, S. (2016). Taxonomic account of the family Gesneriaceae in northeast India. *Nelumbo* 58: 1-43. <https://doi.org/10.1017/S0960428613000127>
- Sirimongkol, S. (2020). A Taxonomic Revision of the Genus *Henckelia* Spreng. (Gesneriaceae) in Thailand and Surrounding Countries. (Doctoral dissertation), Thesis, School of Natural Sciences, Trinity College, Dublin.
- Taram, M., Borah, D., Singh, R. K. & Tag, H. (2021). Two new species of *Henckelia* (Gesneriaceae) from the Eastern Himalayan state Arunachal Pradesh, India. *Feddes Repertorium* 132 (4): 364-371. <https://dx.doi.org/10.1002/fedr.202100006>

- Taram, M., Borah, D. & Tag, H. (2022). *Henckelia longipedicellata* (Gesneriaceae): New addition for the flora of India from Mishmi Hills of Arunachal Pradesh. *Feddes Repertorium* 133 (3): 194-198. <https://dx.doi.org/10.1002/fedr.202100050>
- Taram, M., Borah, D., Taku, O. & Tag, H. (2020). *Henckelia siangensis* (Gesneriaceae): a remarkable new species from Northeast India. *PhytoKeys* 160: 1-6. <https://doi.org/10.3897/phytokeys.160.54459>
- Taram, M., Borah, D. & Tag, H. (2024). Two new records of *Henckelia* for India from Arunachal Pradesh. *Vegetos*. <https://doi.org/10.1007/s42535-024-00905-4>
- Wang, W. C., Pan, K. Y., Li, Z. Y., Weitzman, A. L. & Skog, L. E. (1998). Gesneriaceae. In: Z.Y. Wu, P.H. Raven (Eds.), *Flora of China* 18: 244-401. Science Press: Missouri Botanical Garden Press.
- Wood, D. (1974). A revision of *Chirita* (Gesneriaceae). *Notes from the Royal Botanic Garden, Edinburgh* 33: 123-205.